

Project No. 1251-100
Crude Oil Tank Farms Project, Agrood Area 30 (Module-1)



System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

Sr.	Pre-Commissioning and Commissioning Dossier Index	Applicable (Yes/No)
1	Mechanical Completion Certificate (MCC)	
2	Ready for Startup Certificate (RFSU)	
3	System Punch Lists	
4	System Limits Marked Up P&ID	
5	System Index	
6	Piping Pre-Commissioning	
	6.01) Piping Test Packs	
	6.02) Piping Pre-commissioning Check Lists	
7	Piping Commissioning	
	7.01) Service Test, GLT, CLT and N2 Purging Certificates	
	7.02) Piping Commissioning Check Lists	
Sr.	Pre-Commissioning and Commissioning Dossier Index	Applicable (Yes/No)
8	Mechanical Pre-Commissioning	
	8.01) System Mechanical Index	
	8.02) Equipment Drawings	
	8.03) Equipment Datasheets	
	8.04) Boxing-up Certificates	

	8.05) Grouting Certificates	
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11	Instrumentation Commissioning	
	11.01) Instrumentation Function Test Certificates	
	11.02) Instrumentation Supplier Check Lists & Reports	
Sr.	Pre-Commissioning and Commissioning Dossier Index	Applicable (Yes/No)
12	Electrical Pre-Commissioning	
	12.01) System Electrical Index	
	12.02) Electrical Drawings	
	12.03) Motor Datasheets	
	12.04) Electrical Cables Schedule	
	12.05) Electrical Cables Laying Certificates	
	12.06) Electrical Cables Testing Certificates	
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	12.08) FAT Reports & Certificates	
	12.09) SAT Reports & Certificates	
	12.10) Electrical Pre-Commissioning Check Lists	
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13	Electrical Commissioning	
	13.01) Electrical -Commissioning Check Lists	
	13.02) Electrical Supplier Check Lists & Reports	
14	Red Marked-up Drawings	
	14.01) P&ID	
	14.02) Instrumentation Drawings	
	14.03) Electrical Drawings	

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Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

1-Mechanical Completion Certificate (MCC)



SYSTEM MECHANICAL COMPLETION CERTIFICATE (MCC)

PROJECT TITLE : CRUDE OIL TANK FARM PROJECT (AGROOD AREA)

PROJECT No : 01251-100



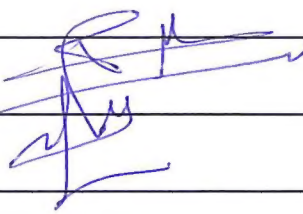
SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System

SYSTEM ID : 030-EL-005

THIS IS TO CERTIFY THAT:

- THE ABOVE SYSTEM HAS BEEN FABRICATED, ERECTED, INSTALLED AND TESTED TO THE REQUIREMENTS OF THE CONTRACT DRAWINGS, SPECIFICATIONS, THE APPLICABLE CODES AND STANDARDS.
- ALL PRE-COMMISSIONING RELEVANT ACTIVITIES, TESTS, INSPECTIONS AND CHECKS HAVE BEEN CARRIED OUT FOR THIS SYSTEM AND FOUND ACCEPTABLE.
- Q/C DOCUMENTATION OF THE ABOVE SYSTEM HAS BEEN AUDITED BY THE CUSTOMER SITE QUALITY CONTROL AND FOUND COMPLETED.
- ALL PUNCH LIST ITEMS CATEGORY (A) IN THIS SUBSYSTEM WERE CLEARED.
- THIS SYTEM IS MECHANICALLY COMPLETED ON THE DATE 01/02/2021 AND READY FOR COMMISSIONING (RFC) WITH THE FOLLOWING EXCEPTIONS.

EXCEPTIONS :

COMPANY	PETROJET	ENPPI	PMC
NAME	M. abdallah	Mohamed Abbas	
TITLE	P. c engineer	Site Mgr.	
SIGNATURE			
DATE	12/07/2021	12/4/2021	



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

2- Ready for Startup Certificate (RFSU)

READY FOR START UP CERTIFICATE

PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD-02)

PROJECT No. : 1251-100

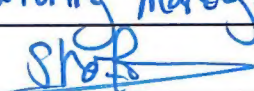
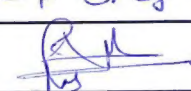
SYSTEM /AREA /PLANT : Substation 400V Low Voltage Motor Control Center System

SYSTEM /AREA /PLANT No. : 030-EL-005

THIS IS TO CERTIFY THAT:

- THE MENTIONED SYSTEM /AREA /PLANT IS READY FOR START UP WHERE ALL MECHANICAL WORKS, PRECOMMISSIONING AND COMMISSIONING ACTIVITIES HAVE BEEN SUCCESSFULLY COMPLETED.
- MECHANICAL COMPLETION CERTIFICATE(S) FOR THE MENTIONED SYSTEM / AREA / PLANT HAVE BEEN SIGNED.
- ISSUANCE OF THIS READY FOR START UP CERTIFICATE(S) SHALL NOT RELIEVE CONTRACTOR(S) FROM THEIR OBLIGATIONS TO COMPLETE THE REMAINING SYSTEMS NOR FROM THEIR WARRANTY OBLIGATIONS AND OTHER PROVISIONS OF THE CONTRACT.
- THE FOLLOWING EXCEPTIONS AGREED TO BE CLEARED AFTER START UP AND WILL NOT PREVENT START UP ACTIVITIES.

EXCEPTIONS :

COMPANY	CONSORTIUM	PPC
NAME	Ahmed El Shafie	Mohamed Ibrahim
TITLE	Commissioning Manager	Elec. eng
SIGNATURE		
DATE	30-6-2021	4-7-2021



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

3- System Punch Lists

PROJECT TITLE : CRUDE OIL TANK FARM PROJECT (AGROOD AREA)

PROJECT NUMBER : 01251-100

DISCIPLINE: Electrical

SYSTEM NAME: Substation 400V Low Voltage Motor Control Center System




SYSTEM ID: 030-EL-05

SUB-SYSTEM NAME:

SUB-SYSTEM ID:

[illegible]

CAT: CATEGORY(A,B,C) ,ACTION BY: (ENPPI,CONST.CONTRACTOR,SUPPLIER.....) , DISP: DISCIPLINE(PIP,MECH,ELECT,INST.....)

COMPANY	PTJ	ENPPI	PMC
NAME	Sobhy Selwan	Ram	Mohamed Ibrahim
SIGN.			
DATE	28-3-2021		28-3-2021



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

4- System Limits Marked Up P&ID



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

5- System Index



Project: 01251-100
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System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

6- Piping Pre-Commissioning



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System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

6.01- Piping Test Packs



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System Description	Substation 400V Low Voltage Motor Control Center System

6.02- Piping Pre-commissioning Check Lists



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System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

7- Piping Commissioning



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System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

7.01- Service Test, GLT, CLT and N2 Purging Certificates



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System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

7.02- Piping Commissioning Check Lists



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8- Mechanical Pre-Commissioning



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System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

8.01- System Mechanical Index



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System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

8.02- Equipment Drawings



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8.03- Equipment Datasheets



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System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

8.04- Boxing-up Certificates



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System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

8.05- Grouting Certificates



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System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

8.06- Pre-Alignment Certificates



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System Description	Substation 400V Low Voltage Motor Control Center System

8.07- Mechanical Pre-Commissioning Checklists



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System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

9- Mechanical Commissioning



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System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

9.01- Final Alignment Certificates



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System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

9.02- Motor Solo Run Certificates



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System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

9.03- Mechanical Run Test (MRT) Certificates



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9.04- Mechanical Commissioning Checklists



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9.05- Mechanical Supplier Check Lists & Reports



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System Description	Substation 400V Low Voltage Motor Control Center System

10- Instrumentation Pre-Commissioning

System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

10.01- System Instrument Index



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10.02- Instrument Data Sheets



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System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

10.03- Instrument Cable Schedule

System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

10.04- System Instrumentation Wiring Diagram



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CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

10.05- Hook-up Drawing (Mechanical & Pneumatic)



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System Description	Substation 400V Low Voltage Motor Control Center System

10.06- Instruments Cables Schedule



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CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

10.07- Instruments Cables Laying Certificates



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System ID	030-EL-005
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10.08- Instruments Cables Termination Certificates



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System ID	030-EL-005
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10.09- Instruments Cables Testing Certificates



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System ID	030-EL-005
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10.10- Instruments Calibration Certificates



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System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

10.11- Instrument Loop Checks Certificates



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System ID	030-EL-005
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10.12- Instrumentation Pre-Commissioning Check Lists



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System ID	030-EL-005
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10.13- Instrumentation Supplier Check Lists & Reports



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System ID	030-EL-005
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11- Instrumentation Commissioning



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System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

11.01- Instrumentation Function Test Certificates



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System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

11.02- Instrumentation Supplier Check Lists & Reports



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System ID	030-EL-005
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12- Electrical Pre-Commissioning



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

12.01- System Electrical Index

	System Description	Discipline	Log Number	400V Low Voltage Switchgear		EL-04 A /EL-30 A
030-EL-005	Substation 400V Low Voltage Motor Control Centre	Electrical	030-SUB-LVSWG-1	LV Cable	Checklist	EL-31 A
030-EL-005	Substation 400V Low Voltage Motor Control Centre	Electrical	030-SUB-LVBD-1A	LV Cable	Checklist	EL-31 A
030-EL-005	Substation 400V Low Voltage Motor Control Centre	Electrical	030-SUB-LVBD-1B	LV Cable	Checklist	EL-31 A
030-EL-005	Substation 400V Low Voltage Motor Control Centre	Electrical	C1-030-SUB-LVSWG-1A	LV Cable	Checklist	EL-31 A
030-EL-005	Substation 400V Low Voltage Motor Control Centre	Electrical	C1-030-SUB-LVSWG-1B	LV Cable	Checklist	EL-31 A
030-EL-005	Substation 400V Low Voltage Motor Control Centre	Electrical	C2-030-SUB-LVSWG-1A	LV Cable	Checklist	EL-31 A
030-EL-005	Substation 400V Low Voltage Motor Control Centre	Electrical	C2-030-SUB-LVSWG-1B	LV Cable	Checklist	EL-31 A
030-EL-005	Substation 400V Low Voltage Motor Control Centre	Electrical	C3-030-SUB-LVSWG-1A	LV Cable	Checklist	EL-31 A
030-EL-005	Substation 400V Low Voltage Motor Control Centre	Electrical	C3-030-SUB-LVSWG-1B	LV Cable	Checklist	EL-31 A
030-EL-005	Substation 400V Low Voltage Motor Control Centre	Electrical	D-030-SUB-LVSWG-1A	LV Cable	Checklist	EL-31 A
030-EL-005	Substation 400V Low Voltage Motor Control Centre	Electrical	D-030-SUB-LVSWG-1B	LV Cable	Checklist	EL-31 A
030-EL-005	Substation 400V Low Voltage Motor Control Centre	Electrical	P1-030-SUB-LVSWG-1A	LV Cable	Checklist	EL-31 A
030-EL-005	Substation 400V Low Voltage Motor Control Centre	Electrical	P1-030-SUB-LVSWG-1B	LV Cable	Checklist	EL-31 A

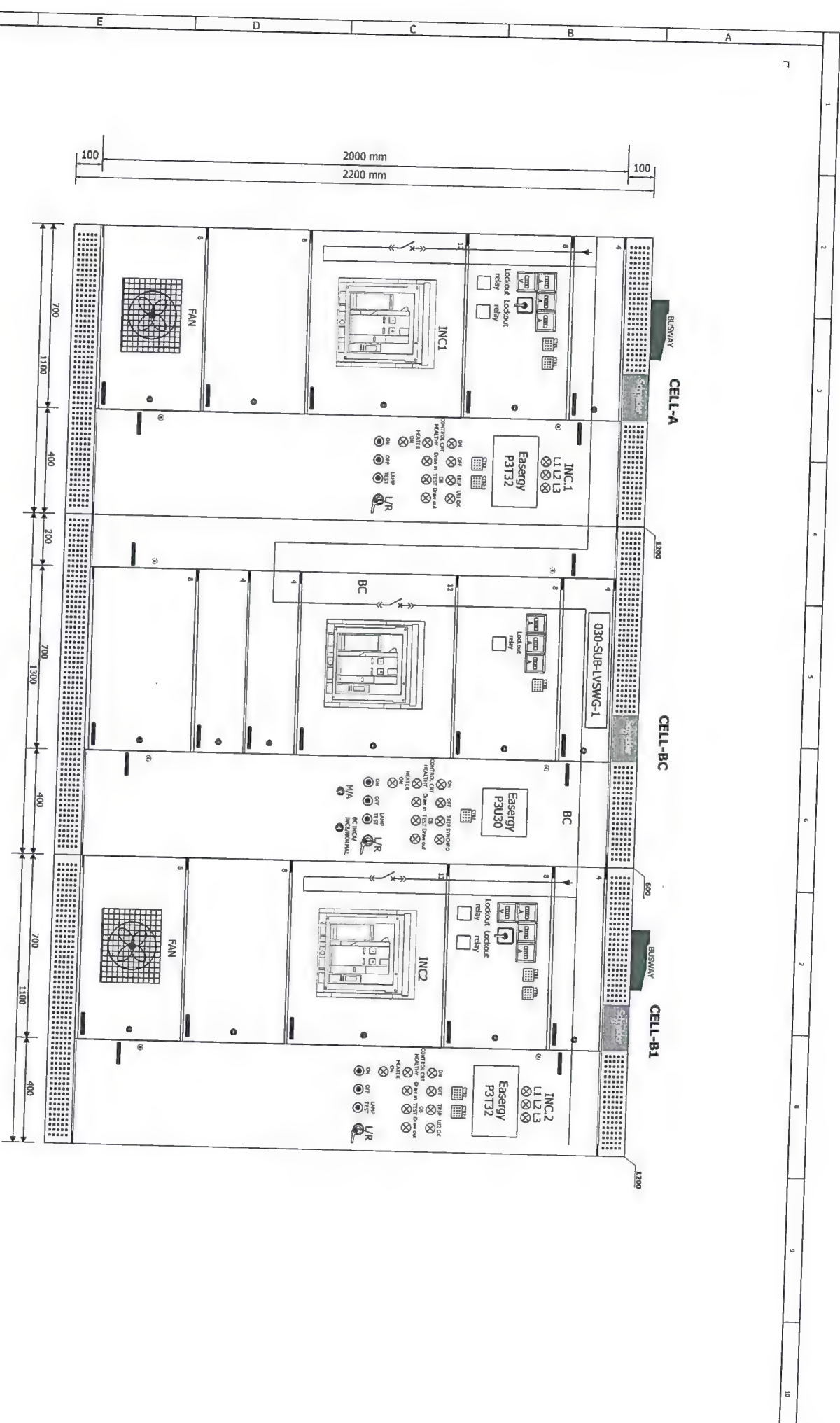


Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)

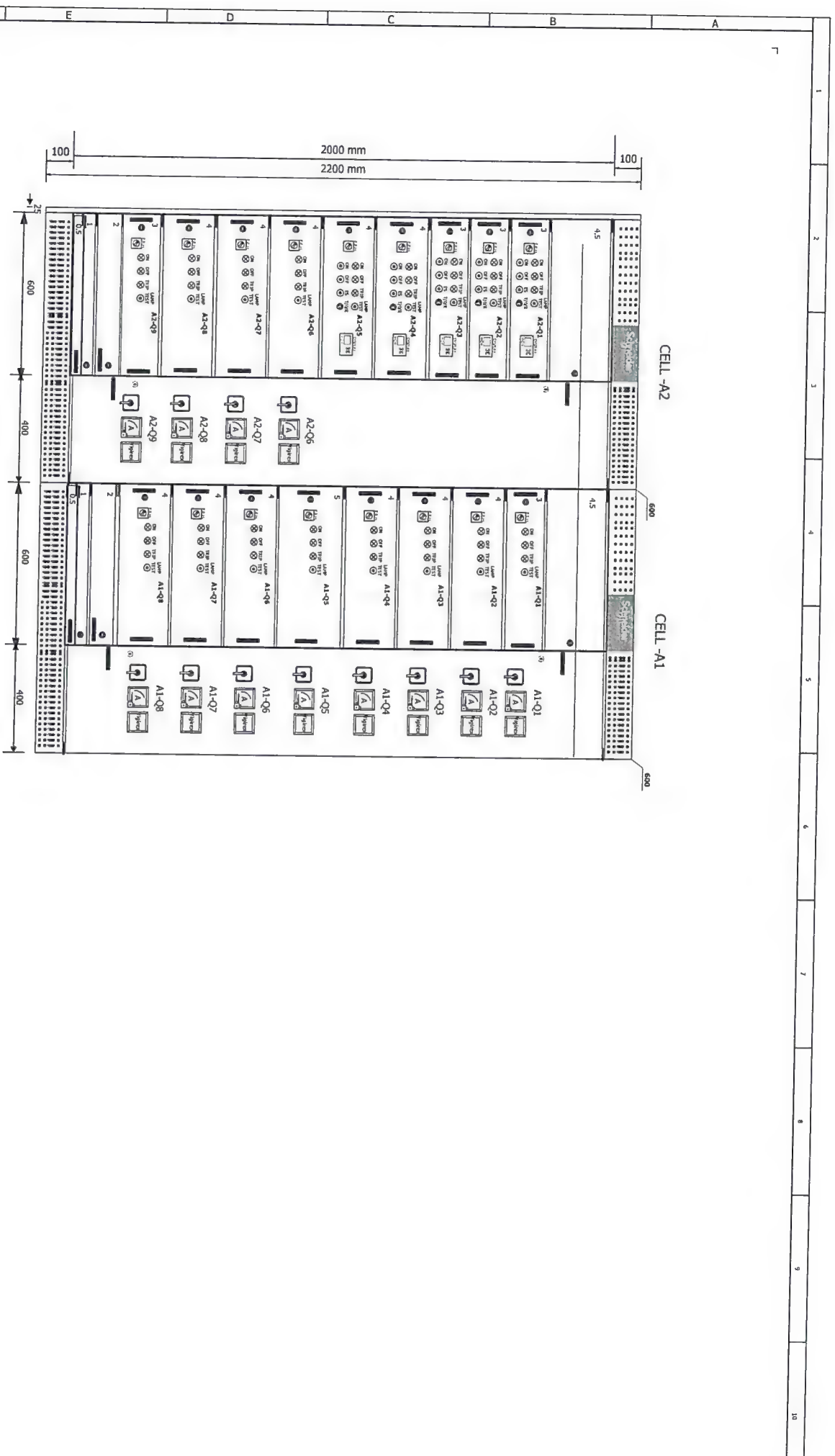


System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

12.02- Electrical Drawings

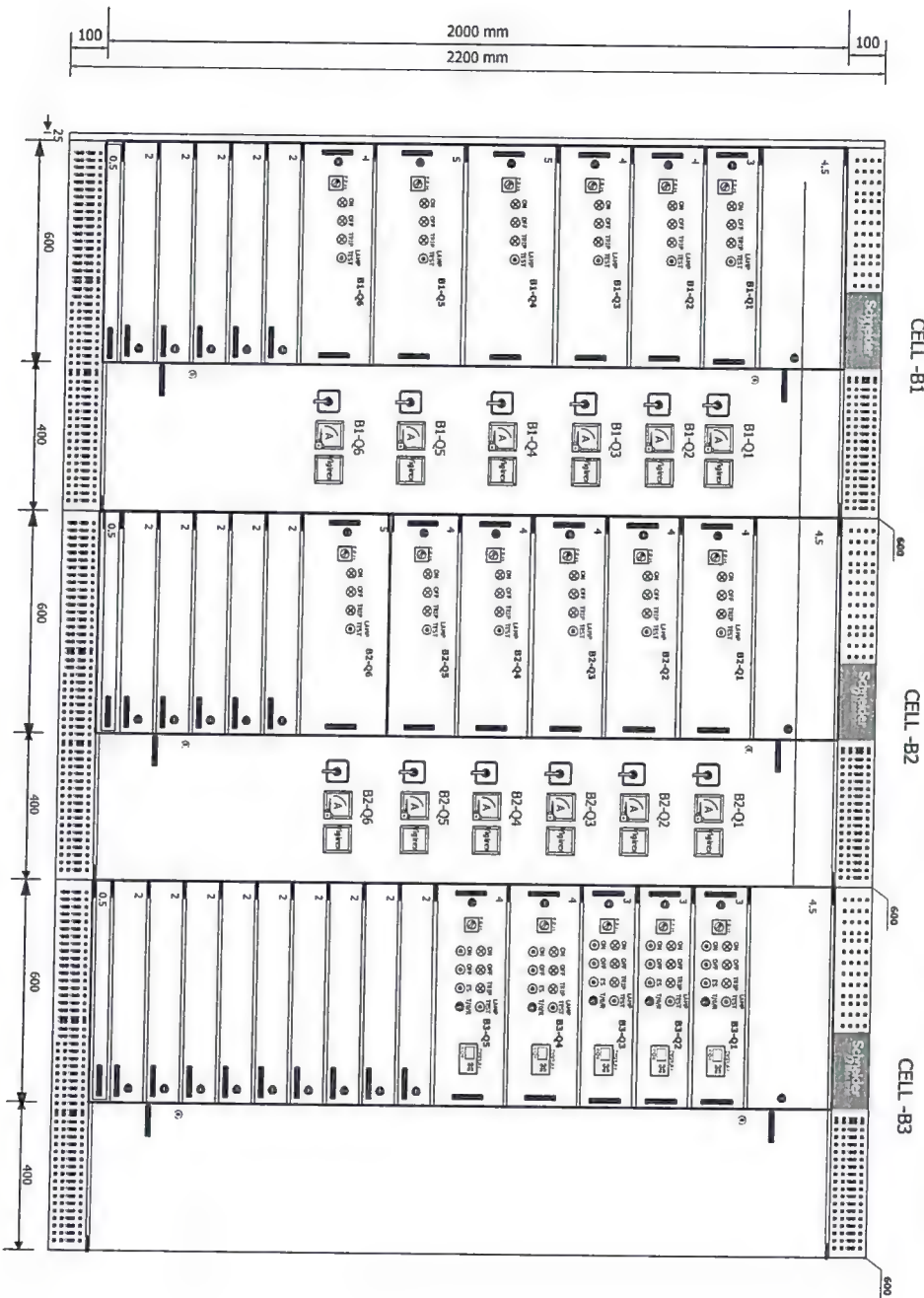


C	29 Jul 2020	Issue for Production				<div>Schneider Electric NEA</div> <div>Schneider Electric</div>	Customer name	ENIPPI	Page description	Checked by	Approved by	Item Number	Page	
B	16 Jun 2020	Issue for Production					Project description	Mahmoud	1-5	Total pages				
A	7 May 2020	First Issue					EGPC Crude oil Tank Farm	O10.004.001	EIO Number	Drawing number	Revision			
Rev.	Date	Page revision description	Rev	Date	Page revision description		time			3244494				
										Layout With Doors				
										- Agroed Area 030-SUB-LVSWG-1				



C	29 Jul 2020	Issue for Production	Schneider Electric NEA	Customer name	EMPT	Page description	Checked by	Approved by	Item Number	Page
B	16 Jun 2020	Issue for Production	Schneider Electric	Project description	EGPC Crude oil Tank Farm	Layout With Doors	Mahmoud	Ahmed Saleh	1-5	Total pages
A	7 May 2020	FIRST ISSUE	Schneider Electric	Project description	EGPC Crude oil Tank Farm	Layout With Doors	Mahmoud	Ahmed Saleh	1-5	Total pages
Rev.	Date	Page revision description	Rev.	Date	Page revision description	Rev.	Date	Page revision description	Rev.	Date

Project No.	010.004.001
ETD Number	
Drawing number	3244494
Revision	



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Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

12.03- Motor Datasheets



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)

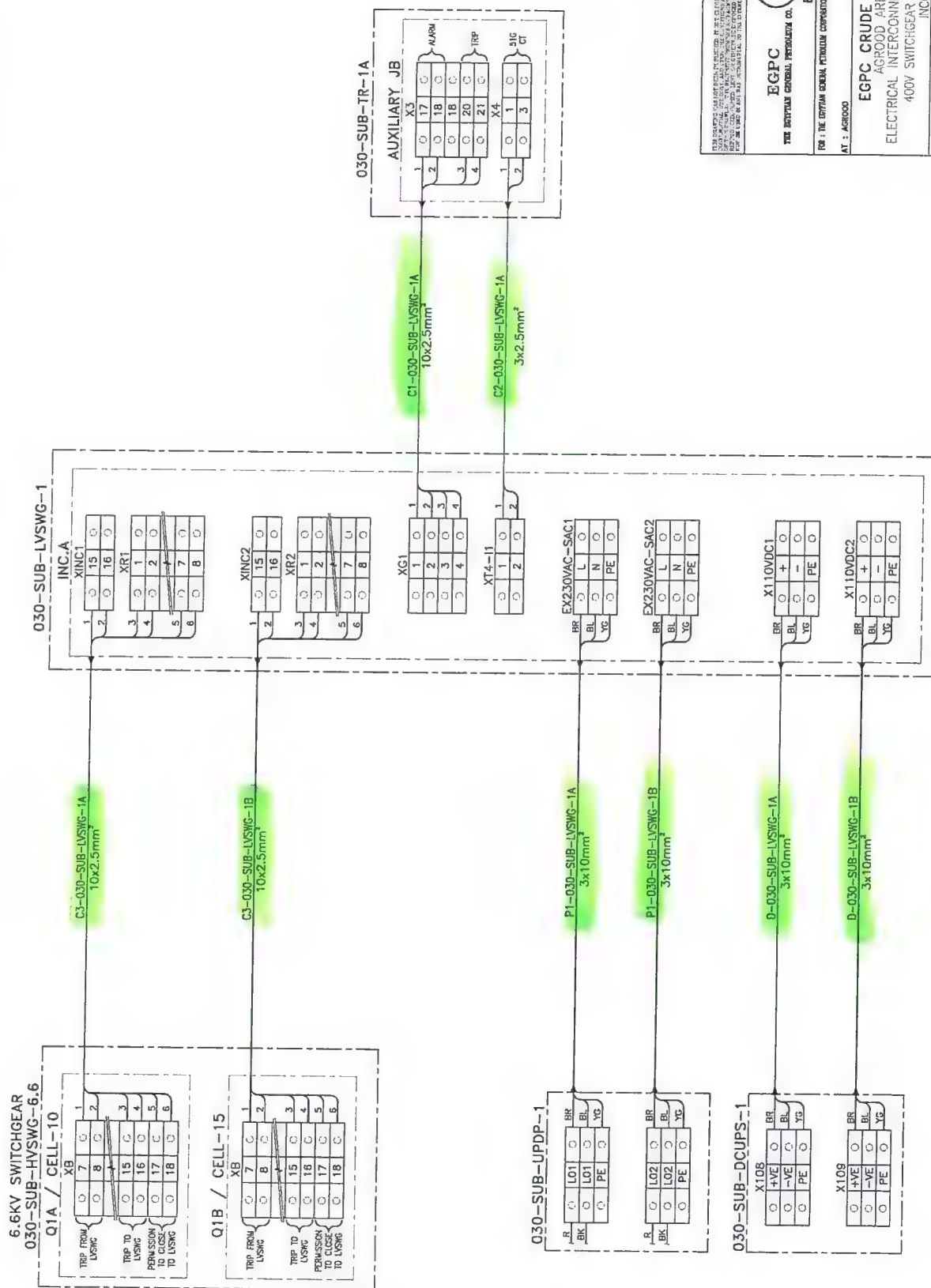


System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

12.04- Electrical Cables Schedule

PAGE	Cable Mark	GL1	FROM	TO	GL2	CABLE Service	Service Voltage	KW	Size	Type	L
13	C1-030-SUB-LVSWG-1A	WP	030-SUB-TR-1A (AUX JB)	030-SUB-LVSWG-1 (INC-A)	WP	ALARM / TRIP SIGNAL			10x2.5	C1	25
13	C2-030-SUB-LVSWG-1A	WP	030-SUB-TR-1A (AUX JB)	030-SUB-LVSWG-1 (INC-A)	WP	51G CT			3x2.5	C1	25
13	C3-030-SUB-LVSWG-1A	WP	030-SUB-LVSWG-1 (INC-A)	030-SUB-HVSWG-6.6 (Q1A)	WP	INTERTRIP			10x2.5	C1	25
13	C1-030-SUB-LVSWG-1B	WP	030-SUB-TR-1B (AUX JB)	030-SUB-LVSWG-1 (INC-B)	WP	ALARM / TRIP SIGNAL			10x2.5	C1	25
13	C2-030-SUB-LVSWG-1B	WP	030-SUB-TR-1B (AUX JB)	030-SUB-LVSWG-1 (INC-B)	WP	51G CT			3x2.5	C1	25
13	C3-030-SUB-LVSWG-1B	WP	030-SUB-LVSWG-1 (INC-B)	030-SUB-HVSWG-6.6 (Q1B)	WP	INTERTRIP			10x2.5	C1	25
13	P1-030-SUB-LVSWG-1A	WP	030-SUB-UPDP-1 (L01)	030-SUB-LVSWG-1 (INC-A)	WP	IPI POWER FEEDER	230VAC	2	3x10	3E	35
13	P1-030-SUB-LVSWG-1B	WP	030-SUB-UPDP-1 (L02)	030-SUB-LVSWG-1 (INC-B)	WP	IPI POWER FEEDER	230VAC	2	3x10	3E	35
13	D-030-SUB-LVSWG-1A	WP	030-SUB-DCUPS-1	030-SUB-LVSWG-1 (INC-A)	WP	DC FEEDER	110VDC	0.5	3x10	3D	45
13	D-030-SUB-LVSWG-1B	WP	030-SUB-DCUPS-1	030-SUB-LVSWG-1 (INC-B)	WP	DC FEEDER	110VDC	0.5	3x10	3D	45

SUBSTATION AND CONTROL BUILDING
SUBSTATION AND CONTROL BUILDING
SWITCHGEAR ROOM
TRANSFORMER BAY



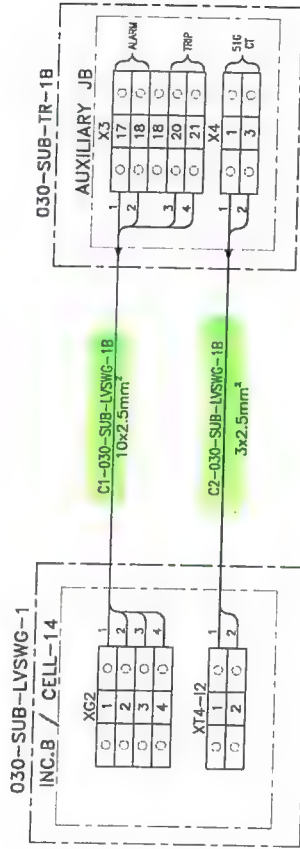
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THE EGYPTIAN GENERAL PETROLEUM CO.
EGPC
THE EGYPTIAN GENERAL PETROLEUM CORPORATION (EGPC)
AT : AGROOD

الموقع العامة المصرية للبترول
الرجل العامة المصرية للبترول
الموقع العامة المصرية للبترول
الموقع العامة المصرية للبترول
EGPC CRUDE OIL TANK FARM
AGROOD AREA (AGROOD-1)
ELECTRICAL INTERCONNECTION & WIRING DIAGRAM
400V SWITCHGEAR (030-SUB-LVSWG-1)
INCOMERA

الشركة الهندسية للمصناعات البترولية والكيمائية
Enppi
ENGINEERING FOR THE PETROLEUM AND PROCESS INDUSTRIES
SCALE: NONE
DOCUMENT NUMBER: 01251-100-030-EWI-001
SUBJECT: 014 OF 078
REVISION: 1
AS SIZE: 297 X 420

SUBSTATION AND CONTROL BUILDING
 SWITCHGEAR ROOM
 SUBSTATION AND CONTROL BUILDING
 TRANSFORMER BAY



NOTES: THE COMPANY'S STANDARD PRACTICES AND PROCEDURES SHALL BE USED UNLESS OTHERWISE SPECIFIED. THE DESIGNER SHALL BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED. THE COMPANY SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED BY THE CLIENT. THE COMPANY SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED BY THE CLIENT.

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 THE EGYPTIAN GENERAL PETROLEUM CO.
 THE EGYPTIAN GENERAL PETROLEUM CO. (EGPC)
 FOR : THE EGYPTIAN GENERAL PETROLEUM CO. (EGPC)
 AT : AGROOD

الجهة العامة المصرية للبترول
 الشركة العامة المصرية للبترول
 لاجل الجهة العامة المصرية للبترول
 الموقع : أجروود

EGPC CRUDE OIL TANK FARM
 AGROOD AREA (MODULE-1)
 ELECTRICAL INTERCONNECTION & WIRING DIAGRAM
 400V SWITCHGEAR (030-SUB-LVSWG-1)
 INCOMER B

الشركة العامة لمعالجة البترول والكيماويات
Enppi
 ENGINEERING FOR THE PETROLEUM AND PROCESS INDUSTRIES

SCALE: NONE | PROJECT NUMBER: 01251-100-030-EWI-001 | SHEET: 015 OF 078 | DATE: 2014/04



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

12.05- Electrical Cables Laying Certificates



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System

12.06- Electrical Cables Testing Certificates



PETROJET

Enppi

EGPC CRUDE OIL TANK FARM



INSPECTION AND TEST REPORT FOR

CABLE INSULATION RESISTANCE TEST

INSPECTION REPORT NUMBER

PTJ-ELE-RFI-

INSPECTION DATE & TIME

10/04/2021

DOCUMENT NO.

ITR-EL-0006B

DISCIPLINE

ELEC

SYSTEM NO.:

SHEET NO

INSTRUMENT TYPE:

HIGH VOLTAGE INSULATION TESTER-SANWA-

MG5000

SERIAL:

17015900385

SERVICE VOLTAGE:

24

TEST VOLTAGE:

500

AREA / PACKAGE:

NO	Item/Tag NO.	CABLE SIZE	Continuity Test	pair conductors	conductors to armor	Shield to Shield	All Conductors-GND	Overall Shield -GND	Armor -GND	RESULT	
										Pass	FAIL
1	C7-030-SUB-HVSWG-	10x2.5	✓	See ✓				>500 MΩ		✓	
2	C7-030-SUB-HVSWG-	10x2.5	✓	See ✓				>500 MΩ		✓	
3	C1-030-SUB-PFC-1A	3x2.5	✓	See ✓				>500 MΩ		✓	
4	C2-030-SUB-PFC-1A	12x2.5	✓	See ✓				>500 MΩ		✓	
5	C1-030-SUB-PFC-1B	3x2.5	✓	See ✓				>500 MΩ		✓	
6	C2-030-SUB-PFC-1B	12x2.5	✓	See ✓				>500 MΩ		✓	
7	C3-030-SUB-LVSWG-1A	10x2.5	✓	See ✓				>500 MΩ		✓	
8	C3-030-SUB-LVSWG-1B	10x2.5	✓	See ✓				>500 MΩ		✓	
9	C3-030-SUB-ACUPS-1	1x3x1.5	✓	See ✓				>500 MΩ		✓	
10	C4-030-SUB-ACUPS-1	1x3x1.5	✓	See ✓				>500 MΩ		✓	
11	C3-030-SUB-DCUPS-1	1x3x1.5	✓	See ✓				>500 MΩ		✓	
12	C4-030-SUB-DCUPS-1	1x3x1.5	✓	See ✓				>500 MΩ		✓	

Remarks :-

Reference

PETROJET		ENPPI		PMC	
NAME :					
SIGNATURE					
DATE					

ITR-EL-0006B



ENPPI

EGPC CRUDE OIL TANK FARM



INSPECTION AND TEST REPORT FOR

CABLE INSULATION RESISTANCE TEST

INSPECTION REPORT NUMBER

PTJ-ELE-RFI-208

INSTRUMENT TYPE:

HIGH VOLTAGE INSULATION TESTER-SANWA-

MG5000

SERIAL:

17015900385

INSPECTION DATE & TIME

02/05/2021

DOCUMENT NO.

ITR-EL-0006B

DISCIPLINE

ELEC

SERVICE VOLTAGE:

24

TEST VOLTAGE:

500

SYSTEM NO.:

SHEET NO

AREA / PACKAGE:

NO	Item/Tag NO.	CABLE SIZE	Continuity Test	pair conductors	conductors to armor	Shield to Shield	All Conductors-GND	Overall Shield-GND	Armor-GND	RESULT	
										Pass	FAIL
13	C4-030-SUB-HVSWG-6.6B	10x2.5	✓	0.0			0.0			✓	
14	C5-030-SUB-HVSWG-6.6B	10x2.5	✓	0.0			0.0			✓	
15	C1-030-SUB-LVSWG-1A	10x2.5	✓	0.0			0.0			✓	
16	C1-030-SUB-LVSWG-1B	10x2.5	✓	0.0			0.0			✓	
17	C1-030-PM-04A	10x2.5	✓	0.0			0.0			✓	
18	C1-030-PM-04B	10x2.5	✓	0.0			0.0			✓	
19	C1-030-PM-05A	10x2.5	✓	0.0			0.0			✓	
20	C1-030-PM-05B	10x2.5	✓	0.0			0.0			✓	
21	C3-030-SUB-AVR-1A	1x3x2.5	✓	0.0			0.0			✓	
22	C3-030-SUB-AVR-1B	1x3x2.5	✓	0.0			0.0			✓	
23	C6-030-SUB-HVSWG-6.6A	3x2.5	✓	0.0			0.0			✓	
24	C6-030-SUB-HVSWG-6.6B	3x2.5	✓	0.0			0.0			✓	

Remarks :-

Reference

NAME :	PETROJET	ENPPI	PMC
SIGNATURE	Ahmed Hassan	Islam Sherif	
DATE	6/6/2021		

ITR-EL-0006B



Enppi

EGPC CRUDE OIL TANK FARM



INSPECTION AND TEST REPORT FOR

CABLE INSULATION RESISTANCE TEST

SYSTEM NO.:

INSPECTION REPORT NUMBER

INSPECTION DATE & TIME

DOCUMENT No.

DISCIPLINE

SHEET NO

PTJ-ELE-RFI- 208

02/06/2021

ITR-EL-0006B

ELEC

INSTRUMENT TYPE:

SERIAL:

SERVICE VOLTAGE:

TEST VOLTAGE:

AREA / PACKAGE:

HIGH VOLTAGE INSULATION TESTER-SANWA-MG5000

17015900385

24

500

NO	Item/Tag NO.	CABLE SIZE	Continuity Test	pair conductors	conductors to armor	Shield to Shield	All Conductors-GND	Overall Shield-GND	Armor-GND	RESULT	
										Pass	FAIL
25	C2-030-SUB-LVSWG-1A	3x2.5	✓	0.0			0.0			✓	
26	C2-030-SUB-LVSWG-1B	3x2.5	✓	0.0			0.0			✓	
27	C8-030-SUB-HVSWG-6.6A	8x(3x2.5)	✓	0.0			0.0			✓	
28	C8-030-SUB-HVSWG-6.6B	8x(3x2.5)	✓	0.0			0.0			✓	
29	C9-030-SUB-HVSWG-6.6A	3x2.5	✓	0.0			0.0			✓	
30	C10-030-SUB-HVSWG-6.6A	3x2.5	✓	0.0			0.0			✓	
31	C9-030-SUB-HVSWG-6.6B	3x2.5	✓	0.0			0.0			✓	
32	C10-030-SUB-HVSWG-6.6B	3x2.5	✓	0.0			0.0			✓	
33											
34											
35											
36											

Remarks :-

Reference

NAME	PETROJET	ENPPI	PMC
SIGNATURE	Ahmed Hassan	Ismael Sherif	Devi
DATE	01/06/2021		



Enppi

EGPC CRUDE OIL TANK FARM



INSPECTION AND TEST REPORT FOR

CABLE INSULATION RESISTANCE TEST

INSPECTION REPORT NUMBER

PTJ-ELE-RFL

INSPECTION DATE & TIME

DOCUMENT No.
ITR-EL-0006A

DISCIPLINE

ELECTRICAL

SYSTEM NO.:

SHEET NO

INSTRUMENT TYPE:

HIGH VOLTAGE INSULATION TESTER-SANWA-MG5000

SERIAL:

17015900385

SERVICE VOLTAGE: 400

TEST VOLTAGE: 1000

AREA / PACKAGE:
SUBSTATION

NO	Item/Tag NO.	CABLE SIZE	Continuity Test	PHASE TO PHASE			PHASE TO NUETRAL "M.Ohm"			PHASES & NUETRAL TO ARMOR				RESULT	
				BR-BK	BR-GR	BK-GR	BR-B	BK-B	GR-B	BR-ARM	BK-ARM	GR-ARM	B-ARM	Pass	FAIL
17	P-030-SUB-LPDP-1	3.5x120	✓	OL	OL	OL	OL								✓
18	P-030-SUB-ASP-1	3.5x120	✓	OL	OL	OL	OL								✓
19	P-030-EPM1-UPDP-1	3.5x50	✓	OL	OL	OL	OL								✓
20	P1-030-SUB-ACUPS-1	3x10	✓	OL			OL								✓
21	P-030-SUB-IRP-1	3x10	✓				OL								✓
22	D-030-SUB-LVSWG-1A	3x10	✓				OL								✓
23	D-030-SUB-LVSWG-1B	3x10	✓				OL								✓
24	D-030-SUB-IRP-1	3x10	✓				OL								✓
25	P1-030-SUB-LVSWG-1A	3x10	✓				OL								✓
26	P1-030-SUB-LVSWG-1B	3x10	✓				OL								✓
27	C1-030-SUB-ACUPS-1	3x2.5	✓				OL								✓
28	C2-030-SUB-ACUPS-1	3x2.5	✓				OL								✓
29	C1-030-SUB-DCUPS-1	3x2.5	✓				OL								✓
30	C2-030-SUB-DCUPS-1	3x2.5	✓				OL								✓
31	P-030-SUB-AVR-1A	3x4	✓				OL								✓
32	P-030-SUB-AVR-1B	3x4	✓				OL								✓



Remarks :-

Reference :-

	PETROJET	ENPPI	PMC

ITR-EL-0006A

12.07- Electrical Cables Termination Certificates

 Enppi PETROJET	
Project: 01251-100 CRUDE OIL TANK FARM PROJECT (AGROOD AREA)	
	
System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control System

Owner : Egyptian General Petroleum Corporation (EGPC)
Project No: 01251-100-030Contractor CONSORTIUM (ENPPI / PETROJET)
Document No: ITR-QC-0001
Revision No.: 00

REQUEST FOR INSPECTION

ACTIVITY : CABLE TERMINATION AND TEST

NOTIFICATION NO. : PTJ-ELE-RFI- DISCIPLINE : ELEC

DATE : 27/03/2021

NO.	DESCRIPTION	LOCATION	DATE / TIME	INSPECTION			REMARKS
				PETROJET	ENPPI	PMC	
18	D2-030-SUB-ACUPS-1-BAT-A	SUBSTATION					
19	D1-030-SUB-ACUPS-1-BAT-B	SUBSTATION					
20	D2-030-SUB-ACUPS-1-BAT-B	SUBSTATION					
21	D1-030-SUB-DCUPS-CB-A	SUBSTATION					
22	D2-030-SUB-DCUPS-CB-A	SUBSTATION					
23	D1-030-SUB-DCUPS-CB-B	SUBSTATION					
24	D2-030-SUB-DCUPS-CB-B	SUBSTATION					
25	D1-030-SUB-DCUPS-1-BAT-A	SUBSTATION					
26	D2-030-SUB-DCUPS-1-BAT-A	SUBSTATION					
27	D1-030-SUB-DCUPS-1-BAT-B	SUBSTATION					
28	D2-030-SUB-DCUPS-1-BAT-B	SUBSTATION					
29	P-030-SUB-LPDP-1	SUBSTATION					
30	P-030-SUB-ASP-1	SUBSTATION					
31	P-030-EPM1-UPDP-1	SUBSTATION					
32	P1-030-SUB-ACUPS-1	SUBSTATION					
33	P-030-SUB-IRP-1	SUBSTATION					
34	D-030-SUB-LYSWG-1A	SUBSTATION					

NOTE:

Inspection result : A - Approved B - Reject C - Approved with Comment

NAME :	PETROJET	ENPPI	PMC
SIGNATURE			
DATE			



Owner : Egyptian General Petroleum Corporation (EGPC) Project No: 01251-100-030

Contractor CONSORTIUM (ENPPI / PETROJET) Document No: ITR-QC-0001 Revision No.: 00

REQUEST FOR INSPECTION

ACTIVITY : CABLE TERMINATION AND TEST

NOTIFICATION NO. : PTJ-ELE-RFI- DISCIPLINE : ELEC

DATE : 27/03/2021

NO.	DESCRIPTION	LOCATION	DATE / TIME	INSPECTION			REMARKS
				PETROJET	ENPPI	PMC	
35	D-030-SUB-LVSWG-1B	SUBSTATION					
36	D-030-SUB-IRP-1	SUBSTATION					
37	P1-030-SUB-LVSWG-1A	SUBSTATION					
38	P1-030-SUB-LVSWG-1B	SUBSTATION					
39	C1-030-SUB-ACUPS-1	SUBSTATION					
40	C2-030-SUB-ACUPS-1	SUBSTATION					
41	C1-030-SUB-DCUPS-1	SUBSTATION					
42	C2-030-SUB-DCUPS-1	SUBSTATION					
43	P-030-SUB-AVR-1A	SUBSTATION					
44	P-030-SUB-AVR-1B	SUBSTATION					
45	P1-030-SUB-DCUPS-1	SUBSTATION					
46	P-030-SUB-UPDP-1	SUBSTATION					
47	P-030-SUB-DCUPS-1A	SUBSTATION					
48	P-030-SUB-DCUPS-1B	SUBSTATION					

NOTE:

Inspection result : A - Approved B - Reject C - Approved with Comment

NAME :	PETROJET	ENPPI	PMC
SIGNATURE			
DATE			



CABLE TERMINATION AND SPLICING

SYSTEM NO.:

INSPECTION AND TEST REPORT FOR

INSPECTION REPORT NUMBER

INSPECTION DATE & TIME

ITR NUMBER

DISCIPLINE

ELEC

SHEET NO

1 OF 1

PTJ-ELE-RFI-

Item/Tag NO. For All Cables tags in PTJ-ELE-RFI-

Type :- Core: Size:

NO. Description of check

1 Check cable glands are correct type and size as per cable schedule.

2 Check there are no damages to cores, termination chamber layout is satisfactory, core identification is correct, crimped and pins

3 Check cable tag is done correctly.

4 Test and confirm conductor, phase continuity.

5 Check insulation resistance test (megger) is completed

6 Check Hi-pot test is completed, only for MV/HV cables

7 Connect all cores at both ends and confirm all connections are correct as per termination diagram.

8 Confirm spare cores, screens are earthed and conform to design drawings/specifications

9 Check enclosure cover is installed, no damages and no bolts are missing

10 Calibration test certificate of testing equipment to be checked.

Remarks :

* ITR-EL-006A/B

* ITR-EL-008

NAME : PETROJET ENPPI PMC

SIGNATURE

DATE

ITR-EL-0009



Project No: 01251-100-030
:01251-100-031

CONSORTIUM (ENPPI / PETROJET)

Document No: ITR-QC-0001
Revision No.: 00

CABLE TERMINATION AND TEST

PTJ-ELE-RFI-169

DISCIPLINE :




ELEC

ELEC

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1	P1-030-SUB-HVSWG-6.6A	SUBSTATION			
2	P1-030-SUB-HVSWG-6.6B	SUBSTATION			
3	D-030-SUB-HVSWG-6.6A	SUBSTATION			
4	D-030-SUB-HVSWG-6.6B	SUBSTATION			
5	C7-030-SUB-HVSWG-6.6A	SUBSTATION			
6	C7-030-SUB-HVSWG-6.6B	SUBSTATION			
7	P1-030-SUB-PFC-1A	SUBSTATION			
8	D-030-SUB-PFC-1A	SUBSTATION			
9	C1-030-SUB-PFC-1A	SUBSTATION			
10	C2-030-SUB-PFC-1A	SUBSTATION			
11	P1-030-SUB-PFC-1B	SUBSTATION			
12	D-030-SUB-PFC-1B	SUBSTATION			
13	C1-030-SUB-PFC-1B	SUBSTATION			
14	C2-030-SUB-PFC-1B	SUBSTATION			
15	C3-030-SUB-LVSWG-1A	SUBSTATION			
16	C3-030-SUB-LVSWG-1B	SUBSTATION			
17	C3-030-SUB-ACUPS-1	SUBSTATION			

Inspection result: A - Approved B - Reject C - Approved with Comment

NAME :	SIGNATURE	DATE
PETROJET		
ENPPI		
PMC		

ITR-QC-0001

1TR-QC-0001

			
EGPC CRUDE OIL TANK FARM			
CABLE TERMINATION AND SPLICING			
INSPECTION AND TEST REPORT FOR			
SYSTEM NO.:		INSPECTION REPORT NUMBER	
DISCIPLINE		INSPECTION DATE & TIME	
ELEC		10/04/2021	
SHEET NO		ITR-EL-0009	
1 OF 1		PTJ-ELE-RFI-	
For All Cables tages in PTJ-ELE-RFI-		Item/Tag NO.	
Type :-		Core:	
Size:		Type :-	
Description of check			
ACCEPT		REJECT	
N/A.		RESULT	
NO.		Description of check	
1		Check cable glands are correct type and size as per cable schedule.	
2		Check there are no damages to cores, termination chamber layout is satisfactory, core identification is correct, crimped and pins	
3		Check cable tag is done correctly.	
4		Test and confirm conductor, phase continuity.	
5		Check insulation resistance test (megger) is completed *	
6		Check Hi-pot test is completed, only for MV/HV cables **	
7		Connect all cores at both ends and confirm all connections are correct as per termination diagram.	
8		Confirm spare cores, screens are earthed and conform to design drawings/specifications	
9		Check enclosure cover is installed, no damages and no bolts are missing	
10		Calibration test certificate of testing equipment to be checked.	
Remarks :			
*1 : ITR-EL-006A/B			
*11 : ITR-EL-008			
PETROJET		ENPPI	
NAME :		SIGNATURE	
DATE		DATE	
PMC		ITR-EL-0009	



EGPC CRUDE OIL TANK FARM



Owner : Egyptian General Petroleum Corporation (EGPC) Project No: 01251-100-030

Contractor CONSORTIUM (ENPPI / PETROJET) Document No: ITR-QC-0001

Revision No. : 00

REQUEST FOR INSPECTION

ACTIVITY : CABLE TERMINATION AND TEST

NOTIFICATION NO. : PTJ-ELE-RFI-208 DISCIPLINE : ELEC

DATE : 02/06/2021

NO.	DESCRIPTION	LOCATION	DATE / TIME	PETROJET	ENPPI	PMc	REMARKS
-----	-------------	----------	-------------	----------	-------	-----	---------

SUBSTATION C1-030-SUB-AVR-1A

SUBSTATION C2-030-SUB-PTA-1A

SUBSTATION C1-030-SUB-AVR-1B

SUBSTATION C2-030-SUB-PTA-1B

SUBSTATION C1-030-SUB-HVSWG-6.6A

SUBSTATION C2-030-SUB-HVSWG-6.6A

SUBSTATION C3-030-SUB-HVSWG-6.6A

SUBSTATION C4-030-SUB-HVSWG-6.6A

SUBSTATION C5-030-SUB-HVSWG-6.6A

SUBSTATION C1-030-SUB-HVSWG-6.6B

SUBSTATION C2-030-SUB-HVSWG-6.6B

SUBSTATION C3-030-SUB-HVSWG-6.6B

SUBSTATION C4-030-SUB-HVSWG-6.6B

SUBSTATION C5-030-SUB-HVSWG-6.6B

SUBSTATION C1-030-SUB-LVSWG-1A

SUBSTATION C1-030-SUB-LVSWG-1B

SUBSTATION C1-030-PM-04A

NOTE:

Inspection result : A - Approved B - Reject C - Approved with Comment

	PETROJET	ENPPI	PMc
NAME :	Ahmed Hassan		
SIGNATURE			
DATE	6/6/2021		

ITR-QC-0001



Owner : Egyptian General Petroleum Corporation (EGPC) Project No: 01251-100-030

Contractor CONSORTIUM (ENPPI / PETROJET) Document No: ITR-QC-0001 Revision No.: 00

REQUEST FOR INSPECTION

ACTIVITY : CABLE TERMINATION AND TEST

NOTIFICATION NO. : PTJ-ELE-RFI- 2 of 2 DISCIPLINE : ELEC

DATE : 02/06/2021

NO.	DESCRIPTION	LOCATION	DATE / TIME	INSPECTION	REMARKS
18	C1-030-PM-04B	SUBSTATION			
19	C1-030-PM-05A	SUBSTATION			
20	C1-030-PM-05B	SUBSTATION			
21	C3-030-SUB-AVR-1A	SUBSTATION			
22	C3-030-SUB-AVR-1B	SUBSTATION			
23	P1-030-SUB-TR-1A	SUBSTATION			
24	P1-030-SUB-TR-1B	SUBSTATION			
25	P1-030-LPDP-CR-1	SUBSTATION			
26	P1-030-LPDP-CR-2	SUBSTATION			
27	P1-030-LPDP-CR-3	SUBSTATION			
28	C6-030-SUB-HVSWG-6.6A	SUBSTATION			
29	C6-030-SUB-HVSWG-6.6B	SUBSTATION			
30	C2-030-SUB-LVSWG-1A	SUBSTATION			
31	C2-030-SUB-LVSWG-1B	SUBSTATION			
32	P1-030-SUB-NER-1A	SUBSTATION			
33	P1-030-SUB-NER-1B	SUBSTATION			
34	P1-030-SUB-PTR-1A	SUBSTATION			

NOTE:

Inspection result : A - Approved B - Reject C - Approved with Comment

NAME :	Ahmed Hassan	PETROJET	ENPPI	PMC
SIGNATURE				
DATE	6/6/2021			



CABLE TERMINATION AND SPLICING

SYSTEM NO.:

 INSPECTION REPORT NUMBER
 INSPECTION DATE & TIME
 ITR NUMBER
 ITR-EL-0009
 DISCIPLINE
 ELEC
 SHEET NO
 1 OF 1

PTJ-ELE-RFI-

Item/Tag NO.

For All Cables lages in PTJ-ELE-RFI-

Type :-

Description of check

NO.

Check cable glands are correct type and size as per cable schedule.

✓

Check there are no damages to cores, termination chamber layout is satisfactory, core identification is correct, crimped and pins satisfactory.

✓

Check cable tag is done correctly.

✓

Test and confirm conductor, phase continuity.

✓

Check insulation resistance test (megger) is completed *

✓

Check Hi-pot test is completed, only for MV/HV cables *

X

Connect all cores at both ends and confirm all connections are correct as per termination diagram.

✓

Confirm spare cores, screens are earthed and conform to design drawings/specifications

✓

Check enclosure cover is installed, no damages and no bolts are missing

✓

10 Calibration test certificate of testing equipment to be checked.

✓

Remarks :

*1 : ITR-EL-006A/B

*11 : ITR-EL-008

NAME :

Ahmed Hassan

SIGNATURE

DATE




6/6/2021

PETROJET

ENPPI

PMC

ITR-EL-0009

					
EGPC CRUDE OIL TANK FARM					
Owner : Egyptian General Petroleum Corporation (EGPC) Project No: 01251-100-030		Contractor CONSORTIUM (ENPPI / PETROJET) Document No: ITR-QC-0001 Revision No. : 00			
REQUEST FOR INSPECTION					
ACTIVITY : LVSWG Panel Installation					
NOTIFICATION NO. : PTJ-RFI-EL-138		DISCIPLINE : ELECTRICAL			
DATE : 3/7/2021					
NO.	DESCRIPTION	LOCATION	DATE / TIME	PETROJET	ENPPI
1	LVSWG Panel Installation	AGROUD MODULE 1 SUB BUILDING	7-Mar-21	C	C
2	030-SUB-LVSWG-1				
INSPECTION					
PMO	ENPPI	PETROJET	REMARKS		
# Supplier will check final inspection & utilize torque certificate & all inter connection cable # BAR's connection to Bus duct will be checked by supplier (All Done) Sol					
NAME :		SIGNATURE		DATE	
PETROJET		ENPPI		PMO	

NOTE:
 Inspection result : A - Approved B - Reject C - Approved with Comment



EGPC CRUDE OIL TANK FARM



INSPECTION AND TEST REPORT FOR

LVSWG AND PANEL INSTALLATION

INSPECTION REPORT NUMBER PTJ-ELE-RFI-138
INSPECTION DATE & TIME
DOCUMENT No. ITR-EL-0012
DISCIPLINE ELECTRICAL
SHEET NO.

JOB DESCRIPTION
AGROUD MODULE 2 SUB BUILDING

Tag No.

Serial No.

NO.

INSPECTION

RESULT

ACCEPT REJECT N/A.

Verify that equipment name plates are according to the corresponding drawing

Inspect physical and mechanical condition of the equipment and all components for clear damage.

Verify appropriate anchorage, required area clearances, physical damage, and correct alignment and cleanliness.

Inspect all doors, panels, and sections for paint, dents, scratches, fit, and missing hardware.

Verify that the barriers and covers are installed correctly.

Verify that filters are in place and all ventilation openings are clear from any kind of obstacles.

Verify that main bus bar is connected between the cells.

Verify that the earth bar is connected between the cells and connected to the earth.

Verify the tightness of accessible bolted electrical connections using the calibrated torque-wrench method

After tightening each electrical connection to the appropriate torque, apply some Varnish between the nut and the screw (or else, between the screw's head and

Confirm that lubricants have been correctly applied at the recommended locations.

Inspect all mechanical indicating devices for correct operation.

Verify that draw out disconnecting contacts and interlocks function correctly.

Verify that fuse and/or circuit breaker size and type correspond to drawings.

Verify that current and potential transformer ratios correspond to drawings.

Verify that all the interconnection control wires between the cells have been made correctly reference to the control drawings

Verify that customer connections to remote power, operators, interlocks, and indicators have been made.

REMARKS:

REFERENCE DOCUMENTS:

NAME :



PETROJET

ENPPI

PMC


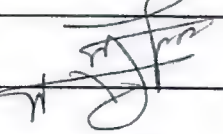
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DATE

			
INSPECTION AND TEST REPORT FOR BUS DUCT INSTALLATION		EGPC CRUDE OIL TANK FARM	
INSPECTION REPORT NUMBER INSPECTION DATE & TIME DOCUMENT No. ITR-EL-0015 DISCIPLINE ELECTRICAL SHEET NO		AREA DESCRIPTION	
Busway type Tag No.		Rated Voltage	

NO.	INSPECTION			RESULT	
	ACCEPT	REJECT	N/A		
1	✓				
2	✓				
3					✓
4	✓				
5	✓				
6	✓				
7	✓				
8	✓				
9	✓				
10	✓				
11	✓				
12	✓				
13	✓				
14	✓				
15					

REMARKS:					
1	Check that the min clearances between the Busway sections and the edge of the wall not less than 100 mm	✓			
2	Check that the Min clearance distance between the top of the Busway and ceiling not less than 1000 mm at tap-off	✓			
3	Check that the Min mounting clearances between the two parallel Busway Edge wise / Flat wise not less than (if applicable)				✓
4	Check that the min distance between each two supports is not less than the recommended value on installation manual.	✓			
5	Check that the min distance between the joint blocks axis and below floor slab for the risers is in accordance to recommended value in installation manual	✓			
6	Check that the min distance between the joint block axis and the corresponding upper ceiling for the risers is in accordance to recommended value in installation manual.	✓			
7	Check that min clearance for the Busway trucking through the opening of the floor or through the wall is not less than 50mm.	✓			
8	Check that there is no any joint block is positioned in the floor slab/wall	✓			
9	Check that Busways components are free from physical damage	✓			
10	Check that the Busways during the installations are not exposed to any bad conditions (Dust, Vapors or abnormal vibrations)	✓			
11	Verify that the size of the steel threaded drop rod is not less than mentioned value in installation manual	✓			
12	Check that the used supports are suitable to installation type and verify proper fixation of supports	✓			
13	Verify that the used fixing system for risers is suitable to rated currents of the risers as per installation manual recommendations.	✓			
14	Verify that supporting of the Busway is independently from supports for other building system such as (fall ceiling-piping – duct work)	✓			
15	Verify that the vertical busway is protected from moisture or dust from unfinished roof.				

NAME :		PETROJET	ENPPI	PMC
SIGNATURE				
DATE				

			
INSPECTION AND TEST REPORT FOR		BUS DUCT INSTALLATION	
INSPECTION REPORT NUMBER		DOCUMENT No. ITR-EL-0015	
INSPECTION DATE & TIME		DISCIPLINE ELECTRICAL	
SHEET NO		SHEET NO	

Busway type	Tag No.	Rated Voltage
AREA DESCRIPTION		

NO.	INSPECTION	RESULT
-----	------------	--------



16	Verify that the uncompleted Busway sections to be closed by proper cover (water proof and sealed) to prevent the insertion of any foreign object	✓		
17	Verify that expansion section is positioned in accordance to S.L.D.	✓		
18	Verify that the arrangement and the type of installed Busway components (tap off- elbow- runs ----etc) in accordance to S.L.D	✓		
19	Verify that the gasket of the junction blocks is in place properly.	✓		
20	Verify that contacts of junction blocks are clean of dust, liquid or any	✓		
21	Verify that the contacts plates of junction blocks and of trucking of Busway are free from damage* (before fixed the covers)	✓		
22	Verify the proper mounting of contact plates of junction blocks and contact plates of trucking of busway.	✓		
23	Verify proper vertical and horizontal alignment during the installation of Busway	✓		
24	Check the tightening torque of the junction blocks	✓		
25	Check the tightening torque of the covers of the junction block after completing all required tests *	✓		
26	Verify the tightening torque of bolts not fitted with torque nuts.	✓		
27	Check that springs of spring hangers are freely by removed spring nuts after complete installation of risers.	✓		
28	Verify phases arrangement of busway with the switchboard and transformers	✓		
29	Check the installation of the End Feed or adaption between the Busway and Switchboard or with transformer	✓		
30	Verify that the cross section area of adaption link between busway and switchboard/transformer for non standard solution is according to approved drawings	✓		
31	Verify the connections of PE of busway with the earthing of switchboard and/or transformer	✓		

REMARKS:				
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NAME :	PETROJET	ENPPI	PMC
SIGNATURE			
DATE			

ITR-EL-0015

ETUDE

<div>  <div> <div>Project: 01251-100</div> <div>CRUDE OIL TANK FARM PROJECT (AGROOD AREA)</div>  </div> </div>	<div> <div>System ID</div> <div>030-EI-005</div> </div>	<div> <div>System Description</div> <div>Substation 400V Low Voltage Motor Control Center System</div> </div>
		<div> <div>12.08- FAT Reports & Certificates</div> </div>

12.09- SAT Reports & Certificates

System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System
<div><div><p>Enppi PETROJET</p></div><div><p>Project: 01251-100 CRUDE OIL TANK FARM PROJECT (AGROOD AREA)</p></div></div>	

Date : 30/11/2020	Customer : Enppi/PPC
Site Location: 6- Agrod Area 031-SUB-LVSWG-1	Project : EGPC Crude oil Tank Farm
Order Number : 010.004.001	Equipment Tag: Blokset
Rated Voltage: 690V	Service voltage : 400V

Visual and Mechanical inspection		
DESCRIPTION	STATUS	NOTE
1	OK	3 Tags
Verify that equipment name plates are according to the corresponding drawings.		
2	OK	
Inspect physical and mechanical condition of the equipment and all components for clear damage.		
3	OK	
Verify appropriate anchorage, required area clearances, physical damage, and correct alignment and cleanliness.		
4	OK	Touch up Point
Inspect all doors, panels, and sections for paint, dents, scratches, fit, and missing hardware.		
5	OK	
Verify that the barriers and covers are installed correctly.		
6	OK	
Verify that filters are in place and all ventilation openings are clear from any kind of obstacles.		
7	OK	
Verify that main bus bar is connected between the cells.		
8	OK	
Verify that the earth bar is connected between the cells and connected to the earth.		
9	OK	
Verify the tightness of accessible bolted electrical connections using the calibrated torque-wrench method		
10	OK	
Confirm that lubricants have been correctly applied at the recommended locations.		
11	OK	
Inspect all mechanical indicating devices for correct operation.		
12	OK	
Verify that draw out disconnecting contacts and interlocks function correctly.		
13	OK	
Verify that fuse and/or circuit breaker size and type correspond to drawings.		
14	OK	
Verify that current and potential transformer ratios correspond to drawings.		
15	OK	
Verify that all the interconnection control wires between the cells have been made correctly reference to the control drawings		
16	OK	
Verify that customer connections to remote power, operators, interlocks, and indicators have been made.		

Comments: *no abnormality*

PPC rep.: Name- *Shab Aoud*

Enppi rep.: Name- *Shab Aoud*

Schneider rep.: Name- *Arnr Mohammed/Ahmed Osm*

Signature _____

Signature *Arnr Mohammed/Ahmed Osm*

Signature *Shab Aoud*

Signature *Shab Aoud*

Page 1 of 1

Date : 1 / 12 / 2020	Customer : Enppi/PPC
Site Location: 6- Agrood Area 031-SUB-LVSWG-1	Project : EGPC Crude oil Tank Farm
Order Number : 010.004.001	Equipment Tag: Blokset
Rated Voltage: 690V	Service voltage : 400V

Functional operational tests for LV Switchgear.

Visual and Mechanical inspection		
DESCRIPTION	STATUS	NOTE
1 Insure that the auxiliary supply required for the operation is connected.	ok	
2 Check the Electrical closing / opening of the circuit breaker in draw in position	ok	
3 Check the Electrical closing / opening of the circuit breaker in draw Out Position	ok	
4 Check the Electrical closing / opening of the circuit breaker in test position (If any)	ok	
5 Check the electrical indicators which are present in the LV compartment doors and its compatibility with the operation mode statues	ok	
6 Check the circuit breaker for TVSS in the close position before Energize the incoming circuit breaker.	N/A	
7 Check the mechanical indicators which present and its compatibility with the operation mode statues	ok	
8 Check the mechanical interlocking system by keys as per drawings "If any"	N/A	Stuck
9 Check all operation modes of the switchgear (i.e. local, auto, remote.....etc) as per the drawings. Simulate all external signals to the switchgear.	ok	

PPC rep.: Name: Abd Elhady

Enppi rep.: Name: Mohd Aoud

Schneider rep.: Name: Amr Mohamed/Ahmed Osam

Signature: _____

Signature: _____

Signature: _____

Comments: _____

Date : 29 / 11 / 2020	Customer : Enppi/PPC
Site Location: Agroad Area 031-SUB-LVSWG-1	Project : EGPC-Crud Oil Tank Farm
Order Number : 010.004.001	Equipment Tag: Blokset
Rated Voltage: 690 V	Service voltage : 400 V

Insulation-resistance tests

Test Device:	S.N: SRV145976MFH
Model: C.A6505	

Test voltage	Applied DC test voltage
	1000V

For bus section 1:

Insulation resistance (Megohms)			
Phase to phase	A-B: 46.7 GΩ	B-C: 31.9 GΩ	C-A: 17.1 GΩ
Phase to ground	A-GND: 8.24 GΩ	B-GND: 40.7 GΩ	C-GND: 7.5 GΩ
Phase to Neutral	A-N: 13.7 GΩ	B-N: 43.5 GΩ	C-N: 16.11 GΩ
Neutral to ground	11.63 GΩ		

For bus section 2 (if any):

Insulation resistance (Megohms)			
Phase to phase	A-B: 33.5 GΩ	B-C: 47.3 GΩ	C-A: 30.8 GΩ
Phase to ground	A-GND: 6.2 GΩ	B-GND: 29.6 GΩ	C-GND: 26.4 GΩ
Phase to Neutral	A-N: 11 GΩ	B-N: 34.6 GΩ	C-N: 27.9 GΩ
Neutral to ground	6.2 GΩ		

Notes:-

- If the resistance is lower than the standard values, visually inspect the equipment for cleanliness and other potential causes.
- If the visual inspection does not reveal the causes, recommend for the contractor to dry the equipment for a minimum of 4 hours using heat and fans. Then re-measure.
- The insulation resistance test must be done before and after the di-electric test (di-electric test is only made during the testing and commissioning of a switchgear for the first time).

PPC rep.: Name- Mohamed Abdelkader

Enppi rep.: Name- Ahmad

Schneider rep.: Name-Amr Mohamed-Ahmed Osam

Signature _____
Signature _____
Signature _____

Date : 1-12-2020	Order Number : 010.004.001	Equip. Tag : Blokset	Site Location : 6-Agrood Area 031-SUB-LVSWG-1
Customer : Enppi/PPC	Project : EGPC Crude Oil Tank Farm	Rated Voltage : 690 V	Service voltage : 400 V

Protection relays

Note: This test must be made individually for each protection relay by using a secondary injection of the current and voltage



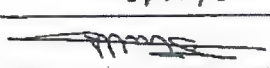
Cell number / type	Incoming A
Protection relay type	Easergy-P3T32
Protection relay serial number	EB202620110

GENERAL INSPECTION.

DESCRIPTION	STATUS	NOTE
Preliminary general examination, prior to energizing	ok	
Energizing	ok	
Parameter and protection settings	ok	
Logic input connection	ok	
Logic output connection	ok	
Validation of the complete protection chain	ok	

General	Description	Setting
Characteristics	Network frequency	50 HZ
	CT rating (Primary)	2000
	CT rating (Secondary): 1A or 5A	5
	Rated current (In)	2000
	Base current (Ib)	2000
	Residual current	
	Rated residual current (In)	

General	Description	Setting
Characteristics	Network frequency	50 HZ
	Number of VTs	3
	Rated primary voltage (Unp)	400
	Rated secondary voltage (Uns)	110
	Residual voltage	

COMPANY	SCHNEIDER	PPC	Enppi
NAME	AMR MOHAMED/AHMED OSAM	Mohamed Abd Elwahy	Shahb Aoud
SIGNATURE			
DATE	21/12/2020	2/12/2020	2/12/2020



Phase current and phase voltage input and phase	Secondary injection of CT rated current, i.e. 1 A or 5 A	CT rated primary current	$I1 = 2000\text{ A}$ $I2 = 2000\text{ A}$ $I3 = 2000\text{ A}$
	Secondary injection of VT rated phase-to-neutral voltage Uns / $\sqrt{3}$	VT rated primary phase-to-neutral voltage Unp / $\sqrt{3}$	$V1 = 400\text{ V}$ $V2 = 400\text{ V}$ $V3 = 400\text{ V}$

Protection relay serial number, EB202620110

Applied for Easergy-P3T32									
Function		Curve	curve	I adjusted	I injected	T adjusted	t measured	error ±5%	Acceptance
Setting and Testing Points									
Over current	50 / 51 - G1-I>	DIT	5 A	5.2 A	300MS	298MS			
	50 / 51 - G1-I>>	DIT	10 A	10.2 A	100MS	60MS			
	87 / Diff								
Earth fault	50 / 51 - G1-I>>>>								
	50G/51G	DIT	0.5 A	0.52 A	1 S	980MS			
	50N/51N - G1>	DIT	1 A	1.1 A	1 S	995MS			
Directional Earth fault	50N/51N-I>>								
	67N - G1> - REV								
Under Voltage	27	DIT	85%	340	3 S	3.01 S			
Over Voltage	59	DIT	97%	388	3 S	3 S			

Schneider Electric	Operation and Test of Drawer Outgoing Feeder	Ref: LV-TS-4

Date : 1-12-2020	Site Location : 6-Agroad Area 031-SUB-LVSWG-1
Order Number : 010.004.001	Switchgear Type, Tag : Biotsect
Customer : Empp/PPC	Rated Voltage : 690 V
Project : EGPC Crude Oil Tank Farm	Service Voltage : 400 V

Functional operational tests for LV Outgoing

Mechanical and Electrical inspection		
DESCRIPTION	STATUS	NOTE
1	ok	Check the Mechanical Operation for Drawer (Connect, Test, Disconnect) and Interlock.
1	ok	Insure that the auxiliary supply required for the operation is connected.
2	ok	Check the Electrical closing/opening and Interlock of the Outgoing (Local & Remote) from HMI and T.B
3	ok	Check the electrical indicators which are present with Operation (Close + Open)
4	ok	Check the Electrical Emergency Stop of the Outgoing during External Field from T.B
5	ok	Check the status for Outgoing from T.B


Test-T Trip Units:

Outgoing Number: A2-Q5	Outgoing Rate: 30 KW	Type of Topical:
C.T Ratio: N-A	Trip Class:10	Full Load Current: 5 A

Function	Enable	I Adjusted	I injected	T adjusted	T measured
Thermal Over load	DT	100%	5.3A	5 Sec	4.8 Sec
Earth Fault	DT	1A	1.2 A	100ms	115 ms
Imbalance	DT	-	-	-	-
F46	DT	-	-	-	-
Over Current	N/A	-	-	-	-
F51	N/A	-	-	-	-
Long Start	DT	100%	5.2 A	3 Sec	3.06 Sec
F51R	DT	200%	10.5A	5 Sec	5.3 Sec
Jam	DT	200%	10.5A	5 Sec	5.3 Sec

Not's: Before the Insulation Resistance Test Must be remove the cable for Fuse Monitor

Test Info	Name	Company	Date	Signature
Comm. supervisor	Amr Mohamed	Schneider	21/12/2020	Amr Mohamed
Tested By	Ahmed Osm	Schneider	21/12/2020	Ahmed Osm
Witness	Shabir A. d	Empp	21/12/2020	Shabir A. d
Witness	Mohamed El N. H	PPC	21/12/2020	Mohamed El N. H
Witness				

	Operation and Test of Drawer Outgoing Feeder	Ref: LV-TS-4

Date : 1-12-2020	
Order Number : 010.004.001	Site Location : 6-Agruod Area 031-SUB-LVSWC-1
Customer : Enppi/PPC	Rated Voltage : 690 V
Project : EGPC Crude Oil Tank Farm	Service voltage : 400 V

Functional operational tests for LV Outgoing

Mechanical and Electrical inspection

DESCRIPTION		STATUS	NOTE
1	Check the Mechanical Operation for Drawer (Connect, Test, Disconnect) and Interlock.	ok	
1	Insure that the auxiliary supply required for the operation is connected.	ok	
2	Check the Electrical closing/opening and Interlock of the Outgoing (Local & Remote) from HMI and T.B	ok	
3	Check the electrical indicators which are present with Operation (Close + Open)	ok	
4	Check the Electrical Emergency Stop of the Outgoing during External Field from T.B	ok	
5	Check the status for Outgoing from T.B	ok	

Tests-T Trip Units:

Outgoing Number: B3-Q4	Outgoing Rate: 30 KW	Type of Topical:
C.T Ratio: N-A	Trip Class:10	Full Load Current: 5 A

Function	Enable	I Adjusted	I Injected	T adjusted	T measured
Thermal Over load F49	DT	100%	5.3A	5 Sec	4.6 Sec
Earth Fault F50C	DT	1A	1.2 A	100ms	111 ms
Imbalance F46	DT	-	-	-	-
Over Current F51	N/A	-	-	-	-
Long Start F51R	DT	100%	5.2 A	3 Sec	3.10 Sec
Jam F51S	DT	200%	10.5A	5 Sec	5.5 Sec

Not's: Before the Insulation Resistance Test Must be remove the cable for Fuse Monitor

Test Info	Name	Company	Date	Signature
Comm. supervisor	Amr Mohamed	Schneider	2-12-2020	Amr Mohamed
Tested By	Ahmed Osam	Schneider	2-12-2020	Ahmed Osam
Witness	Stella And	Enppi	2-12-2020	Stella And
Witness	Mohamed Elwan	PPC	2-12-2020	Mohamed Elwan
Witness				

Date :27/6/2021	Site Location : AGR00D
Order Number : S20008.15	Equip. Tag : LV
Customer :Enppi	Rated Voltage : 400V
Project : EGPC CRUDE OIL TANK FARM PROJECT	Service voltage : 400M V

Functional operational tests for LV Switchgear.

Visual and Mechanical inspection		
DESCRIPTION	STATUS	NOTE
1 Insure that the auxiliary supply required for the operation is connected.	Ok	
2 Check the Electrical closing / opening of the circuit breaker in draw in position	Ok	
3 Check the Electrical closing / opening of the circuit breaker in draw out position	Ok	
4 Check the Electrical closing / opening of the circuit breaker in test position (If any)	Ok	
5 Check the electrical indicators which are present in the LV compartment doors and its compatibility with the operation mode statuses	Ok	
6 Check the circuit breaker for TVSS in the close position before energize the incoming circuit breaker.	N/A	
7 Check the mechanical indicators which present and its compatibility with the operation mode statuses	Ok	
8 Check the mechanical interlocking system by keys as per drawings "if any"	Ok	
9 Check all operation modes of the switchgear (i.e. local, auto, remote.....etc) as per the drawings. Simulate all external signals to the switchgear.	Ok	

Comments-----

Enppi rep.: Name-Eng. Ahmed Nadeem Signature-----

PPC rep.: Name-----Eng: Mohamed Ibrahim Signature-----

Schneider rep.: Name-----Mahmoud abd elnour Signature-----

Date : 27/6/2021	Site Location : AGROOD
Order Number : S20008.15	Equip. Tag : LV
Customer : Enppi	Rated Voltage : 400V
Project : EGPC CRUDE OIL TANK FARM PROJECT	Service voltage : 400MV

Visual and Mechanical inspection		
DESCRIPTION	STATUS	NOTE
1 Verify that equipment name plates are according to the corresponding drawings.	Ok	
2 Inspect physical and mechanical condition of the equipment and all components for clear damage.	Ok	
3 Verify appropriate anchorage, required area clearances, physical damage, and correct alignment and cleanliness.	Ok	
4 Inspect all doors, panels, and sections for paint, dents, scratches, fit, and missing hardware.	Ok	
5 Verify that the barriers and covers are installed correctly.	Ok	
6 Verify that filters are in place and all ventilation openings are clear from any kind of obstacles.	Ok	
7 Verify that main bus bar is connected between the cells.	Ok	
8 Verify that the earth bar is connected between the cells and connected to the earth.	Ok	
9 Verify the tightness of accessible bolted electrical connections using the calibrated torque-wrench method	Ok	
10 Confirm that lubricants have been correctly applied at the recommended locations.	Ok	
11 Inspect all mechanical indicating devices for correct operation.	Ok	
12 Verify that draw out disconnecting contacts and interlocks function correctly.	Ok	
13 Verify that fuse and/or circuit breaker size and type correspond to drawings.	Ok	
14 Verify that current and potential transformer ratios correspond to drawings.	Ok	
15 Verify that all the interconnection control wires between the cells have been made correctly reference to the control drawings	Ok	
16 Verify that customer connections to remote power, operators, interlocks, and indicators have been made.	Ok	

Comments-----

Enppi rep.: Name-Eng. Ahmed Nadeem Signature-----
 PPC rep.: Name-----Eng: Mohamed Ibrahim Signature-----
 Schneider rep.: Name---Mahmoud abd elnour Signature-----

Date :28/6/2021	Order Number : S20008.15	Equip. Tag : L V	Rated Voltage : 400V	Service voltage : 400V
Customer : Enppi		Project : EGPC CRUDE OIL TANK FARM PROJECT		

Protection relays: Esargy P3

- This test must be made individually for each protection relay by using a secondary injection of the current and voltage.
- Before work starts a backup file for the configuration must be taken from relevant devices; doesn't apply on new devices.
- In case of customized tripping curves (customer scope) is selected for 50/51 and 50N/51N the tripping curve must be manually selected from the device after sending the configuration file.

Cell number / type	INC 1
Protection relay type	Esargy P3
Protection relay serial number	EB202220058

GENERAL INSPECTION.

DESCRIPTION	STATUS	NOTE
Preliminary general examination, prior to energizing	OK	
Energizing	OK	
Parameter and protection settings	OK	
Logic input connection	OK	
Logic output connection	OK	
Validation of the complete protection chain	N/A	
Analog output connection to the module and testing	OK	
Temperature sensor input connection and testing	OK	

General	Description	Setting
Characteristics	Network frequency	50HZ
	CT rating (Primary)	2000A
	CT rating (Secondary): 1A or 5A	5A
	Rated current (In)	2000A
	Base current (Ib)	2000A
	Residual current	2000A
	Rated residual current (In0)	2000A

Checking of Esargy P3 phase voltage and current inputs			
Type of check	Test performed	Result	Display
Phase current and phase voltage input connection	Secondary injection of CT rated current, i.e. 1 A or 5 A	CT rated primary current	I1 = 2000A I2 = 2000A I3 = 2000A
	Secondary injection of VT rated phase-to-neutral voltage Uns / $\sqrt{3}$	VT rated primary phase-to-neutral voltage Unp / $\sqrt{3}$	V1 = 400 V V2 = 400 V

Comments

Enppi rep.: Name-Eng. Ahmed Nadeem
 Signature
 PPC rep.: Name-Eng: Mohamed Ibrahim
 Signature
 Schneider rep.: Name-Mahmoud abd elnour
 Signature

Schneider Electric	Protection Relay Series Esargy P3 Test Sheet	INC 1

Date :28/6/2021		Site Location : AGROOD	
Order Number : SZ0008.15		Equip. Tag : L V	
Customer : Enppi		Rated Voltage : 400V	
Project : EGPC CRUDE OIL TANK FARM PROJECT		Service voltage : 400V	
		V3 = 400 V	

Protection setting

Applied for Esargy P3									
Function		Curve		curve	I adjusted	I injected	T adjusted	T measured	error ± 5%
									reception
Over current	50/SI-1/A	DT	1 In	7.5A	1Sec	1.020Sec			
	50/SI-1/B								
	50/SI-2/A	DT	2 In	17A	100mS	118mS			
	50/SI-2/B								
Earth fault	50N/SIN-1/A	DT	0.2 InO	1.5A	1Sec	1.017Sec			
	50N/SIN-1/B								
	50N/SIN-2/A	DT	0.4 InO	3A	100mS	119mS			
	50N/SIN-2/B								

Setting and Testing Points

Comments-----

Enppi rep.: Name-Eng. Ahmed Nadeem
 PPC rep.: Name-----Eng: Mohamed Ibrahim
 Schneider rep.: Name-----Mahmoud abd elnouir

Signature-----
 Signature-----
 Signature-----

Date :28/6/2021	Site Location : AGROOD
Order Number : S20008.15	Equip. Tag : L V
Customer : Enppi	Rated Voltage : 400V
Project : EGPC CRUDE OIL TANK FARM PROJECT	Service voltage : 400V

Protection relays: Esargy P3

- This test must be made individually for each protection relay by using a secondary injection of the current and voltage.
- Before work starts a backup file for the configuration must be taken from relevant devices; doesn't apply on new devices.
- In case of customized tripping curves (customer scope) is selected for 50/51 and 50N/51N the tripping curve must be manually selected from the device after sending the configuration file.

Cell number / type	INC 2
Protection relay type	Esargy P3
Protection relay serial number	EB202220058

GENERAL INSPECTION.		
DESCRIPTION	STATUS	NOTE
Preliminary general examination, prior to energizing	ok	
Energizing	OK	
Parameter and protection settings	OK	
Logic input connection	OK	
Logic output connection	OK	
Validation of the complete protection chain	N/A	
Analog output connection to the module and testing	OK	
Temperature sensor input connection and testing	OK	

General	Description	Setting
Characteristics	Network frequency	50HZ
	CT rating (Primary)	2000A
	CT rating (Secondary): 1A or 5A	5A
	Rated current (In)	2000A
	Base current (Ib)	2000A
	Residual current	2000A
	Rated residual current (In0)	2000A

Checking of Esargy P3 phase voltage and current inputs			
Type of check	Test performed	Result	Display
Phase current and phase voltage input connection	Secondary injection of CT rated current, i.e. 1 A or 5 A	CT rated primary current	I1 = 2000A I2 = 2000A I3 = 2000A
	Secondary injection of VT rated phase-to-neutral voltage Uns / $\sqrt{3}$	VT rated primary phase-to-neutral voltage Unp / $\sqrt{3}$	V1 = 400 V V2 = 400 V

Comments-----

Enppi rep.: Name-Eng. Ahmed Nadeem Signature-----

PPC rep.: Name-----Eng: Mohamed Ibrahim Signature-----

Schneider rep.: Name-----Mahmoud abd elnour Signature-----

Date :28/6/2021	Site Location : AGROOD	Order Number : S20008.15	Customer :Enppi	Project : EGPC CRUDE OIL TANK FARM PROJECT
	Equip. Tag : L V	Rated Voltage : 400V	Service voltage : 400V	
			V3 = 400 V	

Protection setting

Applied for Esargy P3									
Setting and Testing Points									
Function	Curve	curve	I adjusted	I injected	T adjusted	I measured	error ±5%	acceptance	
Over current	50 / 51 - 1 / A	DT	1 In	7.5A	1Sec	1.0225Sec			
	50 / 51 - 1 / B								
	50 / 51 - 2 / A	DT	2 In	17A	100mS	108mS			
	50 / 51 - 2 / B								
Earth fault	50N / 51N - 1 / A	DT	0.2 InO	1.5A	1Sec	1.0205Sec			
	50N / 51N - 1 / B								
	50N / 51N - 2 / A	DT	0.4 InO	3A	100mS	108mS			
	50N / 51N - 2 / B								

Comments-----

Enppi rep.: Name-Eng. Ahmed Nadeem
PPC rep.: Name-----Eng: Mohamed Ibrahim
Schneider rep.: Name-----Mahmoud abd elnour

Signature-----Signature-----Signature-----

Schneider Electric	Protection Relay Series Esargy P3 Test Sheet		B.C

Date : 28/6/2021	Order Number : S20008.15	Equip. Tag : L V	Rated Voltage : 400V	Service voltage : 400V
Project : EGPC CRUDE OIL TANK FARM PROJECT				

Protection relays: Esargy P3

- This test must be made individually for each protection relay by using a secondary injection of the current and voltage.
- Before work starts a backup file for the configuration must be taken from relevant devices; doesn't apply on new devices.
- In case of customized tripping curves (customer scope) is selected for 50/51 and 50N/51N the tripping curve must be manually selected from the device after sending the configuration file.

Cell number / type	B.C
Protection relay type	Esargy P3
Protection relay serial number	EB202220058

GENERAL INSPECTION.		
DESCRIPTION	STATUS	NOTE
Preliminary general examination, prior to energizing	ok	
Energizing	ok	
Parameter and protection settings	ok	
Logic input connection	ok	
Logic output connection	ok	
Validation of the complete protection chain	N/A	
Analog output connection to the module and testing	ok	
Temperature sensor input connection and testing	ok	

General	Description	Setting
Characteristics	Network frequency	50HZ
	CT rating (Primary)	2000A
	CT rating (Secondary): 1A or 5A	5A
	Rated current (In)	2000A
	Base current (Ib)	2000A
	Residual current	2000A
	Rated residual current (In0)	2000A

Checking of Esargy P3 phase voltage and current inputs			
Type of check	Test performed	Result	Display
Phase current and phase voltage input connection	Secondary injection of CT rated current, i.e. 1 A or 5 A	CT rated primary current	I1 = 2000A I2 = 2000A I3 = 2000A
	Secondary injection of VT rated phase-to-neutral voltage Uns / $\sqrt{3}$	VT rated primary phase-to-neutral voltage Unp / $\sqrt{3}$	V1 = 400 V V2 = 400 V

Comments-----

Enppi rep.: Name-Eng. Ahmed Nadeem
 PPC rep.: Name-----Eng: Mohamed Ibrahim
 Schneider rep.: Name-----Mahmoud abd elnour

Signature-----
 Signature-----
 Signature-----

Date :28/6/2021		Site Location : AGROOD		Equip. Tag : L V		Rated Voltage : 400V		Service voltage : 400V	
Order Number : S20008.15									
Customer :Enppi									
Project : EGPC CRUDE OIL TANK FARM PROJECT									
								V3 = 400 V	

Protection setting

Applied for Esargy P3									
Function		Curve		Setting and Testing Points					
				curve	I adjusted	I injected	T adjusted	I measured	error ± 5%
Over current	50/51-1/A	DT	1 In	7.5A	1Sec	1.018Sec			
	50/51-1/B								
	50/51-2/A	DT	2 In	17A	100ms	120ms			
	50/51-2/B								
Earth fault	50N/51N-1/A	DT	0.2 InO	1.5A	1Sec	1.015Sec			
	50N/51N-1/B								
	50N/51N-2/A	DT	0.4 InO	3A	100ms	118ms			
	50N/51N-2/B								

Comments

Enppi rep.: Name-Eng . Ahmed Nadeem

PPC rep.: Name-----Eng: Mohamed Ibrahim

Schneider rep.: Name-----Mahmoud abd elnour

Signature-----

Signature-----

Signature-----

Date : 27/6/2021	Site Location : AGROOD
Order Number : 520008.15	Equip. Tag : LV
Customer : Enppi	Rated Voltage : 400V
Project : EGPC CRUDE OIL TANK FARM PROJECT	Service voltage : 400V

Insulation-resistance tests

Test Device: CHAUVIN	S.N: SRV147858PGH
Model: C.A 6505	

Test voltage	Applied DC test voltage
	1 KVDC

For bus section 1:

Insulation resistance (Megohms)			
Phase to phase	A-B: 3.46G ohm	B-C: 3.54 G ohm	C-A: 3.39G ohm
Phase to ground	A-GND: 3.213G ohm	B-GND: 3.314G ohm	C-GND: 4.414G ohm
Phase to Neutral	A-N: 5.46G ohm	B-N: 5.22G ohm	C-N: 5.1G ohm
Neutral to ground	3.313G ohm		

For bus section 2 (if any):


Insulation resistance (Megohms)			
Phase to phase	A-B: 4.16G ohm	B-C: 3.145G ohm	C-A: 4.29G ohm
Phase to ground	A-GND: 3.323G ohm	B-GND: 3.13G ohm	C-GND: 4.1G ohm
Phase to Neutral	A-N: 5.43G ohm	B-N: 5.24G ohm	C-N: 4.12G ohm
Neutral to ground	3.25G ohm		

Notes: -

- If the resistance is lower than the standard values, visually inspect the equipment for cleanliness and other potential causes.
- If the visual inspection does not reveal the causes, recommend for the contractor to dry the equipment for a minimum of 4 hours using heat and fans. Then re-measure.
- The insulation resistance test must be done before and after the di-electric test (di-electric test is only made during the testing and commissioning of a switchgear for the first time).

Comments:-----

Enppi rep.: Name-Eng. Ahmed Nadeem	Signature-----
PPC rep.: Name-----Eng: Mohamed Ibrahim	Signature-----
Schneider rep.: Name-----Mahmoud abd elnou	Signature-----

	Operation and Test of	Ref: LV-B3-Q1
	Drawer Outgoing Feeder	

Date : 27 / 6 /2021	Customer : ENPPI
Site Location: 6- Agrod Area 031-SUB-LVSWG-1	Project : EGPC Crude oil Tank Farm
Order Number : S2000	Equipment Tag: Blokset
Rated Voltage:400V	Service voltage : 400V

Functional operational tests for LV Outgoing

Mechanical and Electrical inspection		
DESCRIPTION	STATUS	NOTE
1	ok	Check the Mechanical Operation for Drawer (Connect, Test, Disconnect) and Interlock.
1	ok	Insure that the auxiliary supply required for the operation is connected.
2	ok	Check the Electrical closing/opening and Interlock of the Outgoing (Local & Remote) from HMI and T.B
3	Ok	Check the electrical indicators which are present with Operation (Close + Open)
4	ok	Check the Electrical Emergency Stop of the Outgoing during External Field from T.B
5	ok	Check the status for Outgoing from T.B

TestSys-T Trip Units:

Outgoing Number: B3-Q1	Outgoing Rate: 4.4KW	Type of Topical: A1.12
Rating Current : 30A	Trip Class:10	Full Load Current:5A

Function	Enable	I Adjusted	I injected	T adjusted	T measured
Thermal Over load	DT	100%	5.3A	5 Sec	5.018 SEC
Earth Fault	DT	1A	1.2A	500ms	515 MS
Imbalance	DT	-	-	-	-
F46	DT	-	-	-	-
Over Current	N/A	-	-	-	-
F51	DT	100%	5.2A	5 Sec	5.012 SEC
Long Start	DT	200%	10.5A	5 Sec	5.013 SEC
F51R	DT	200%	10.5A	5 Sec	5.013 SEC
Jam	DT	200%	10.5A	5 Sec	5.013 SEC

Not's: Before the Insulation Resistance Test Must be remove the cable for Fuse Monitor

Test Info	Name	Company	Date	Signature
Comm. supervisor	Mahmoud abd elnour	Schneider	30/6/2021	
Customer:	Eng.Ahmed nadeem	ENPPI	30/6/2021	
PPC:	Eng.mohamed ibrahem	MR.C	30/6/2021	

Date : 27 / 6 / 2021	Customer : ENPPI
Site Location: 6- Agrood Area 031-SUB-LVSWG-1	Project : EGPC Crude oil Tank Farm
Order Number : S2000	Equipment Tag: Blokset
Rated Voltage: 400V	Service voltage : 400V

Functional operational tests for LV Outgoing

Mechanical and Electrical Inspection		
DESCRIPTION	STATUS	NOTE
1	Check the Mechanical Operation for Drawer (Connect, Test, Disconnect) and Interlock.	ok
1	Insure that the auxiliary supply required for the operation is connected.	ok
2	Check the Electrical closing/opening and Interlock of the Outgoing (Local & Remote) from HMI and T.B	ok
3	Check the electrical indicators which are present with Operation (Close + Open)	Ok
4	Check the Electrical Emergency Stop of the Outgoing during External Field from T.B	ok
5	Check the status for Outgoing from T.B	ok


Tests-T Trip Units:

Outgoing Number: B3-Q2	Outgoing Rate: 5.5KW	Type of Topical: A1.12
Rating Current : 40A	Trip Class:10	Full Load Current:5A

Function	Enable	I Adjusted	I injected	T adjusted	T measured
Thermal Over load	DT	100%	5.3A	5 Sec	5.012SEC
Earth Fault	DT	1A	1.2A	500ms	511 MS
Imbalance	DT	-	-	-	-
F46	DT	-	-	-	-
Over Current	N/A	-	-	-	-
FS1					
Long Start	DT	100%	5.2A	5 Sec	5.018 SEC
FS1R					
Jam	DT	200%	10.5A	5 Sec	5.017 SEC
FS1S					

Not's: Before the Insulation Resistance Test Must be remove the cable for Fuse Monitor

Test Info	Name	Company	Date	Signature
Comm. supervisor	Mahmoud abd elnour	Schneider	30/6/2021	
Customer:	Eng.Ahmed nadeem	ENPPI	30/6/2021	
PRG:	Eng.mohamed ibrahim	P.P.C	30/6/2021	

	Operation and Test of	Ref: LV- B3-Q3
	Drawer Outgoing Feeder	

Date : 27 / 6 /2021	Customer : ENPPI
Site Location: 6- Agrod Area 031-SUB-LVSWG-1	Project : EGPC Crude oil Tank Farm
Order Number : S2000	Equipment Tag: Blokset
Rated Voltage:400V	Service voltage : 400V

Functional operational tests for LV Outgoing

Mechanical and Electrical inspection		
DESCRIPTION	STATUS	NOTE
1	ok	Check the Mechanical Operation for Drawer (Connect, Test, Disconnect) and Interlock.
1	ok	Insure that the auxiliary supply required for the operation is connected.
2	ok	Check the Electrical closing/opening and Interlock of the Outgoing (Local & Remote) from HMI and T.B
3	Ok	Check the electrical indicators which are present with Operation (Close + Open)
4	ok	Check the Electrical Emergency Stop of the Outgoing during External Field from T.B
5	ok	Check the status for Outgoing from T.B


Tests-T Trip Units:

Outgoing Number: B3-Q3	Outgoing Rate: 5.5KW	Type of Topical: A1.12
Rating Current : 40A	Trip Class:10	Full Load Current:5A

Function	Enable	I Adjusted	I injected	T adjusted	T measured
Thermal Over load	DT	100%	5.3A	5 Sec	5.014 SEC
Earth Fault	DT	1A	1.2A	500ms	511MS
Imbalance	DT	-	-	-	-
F46	DT	-	-	-	-
Over Current	N/A	-	-	-	-
F51	DT	100%	5.2A	5 Sec	5.019 SEC
Long Start	DT	200%	10.5A	5 Sec	5.018 SEC
F51R	DT	200%	10.5A	5 Sec	5.018 SEC
Jam	DT	200%	10.5A	5 Sec	5.018 SEC
F51S	DT	200%	10.5A	5 Sec	5.018 SEC

Not's: Before the Insulation Resistance Test Must be remove the cable for Fuse Monitor

Test Info	Name	Company	Date	Signature
Comm. supervisor	Mahmoud abd elnour	Schneider	30/6/2021	
Customer:	Eng.Ahmed nadeem	ENPPI	30/6/2021	
PRC:	Eng.mohamed ibrahem	PRC	30/6/2021	

	Operation and Test of	Ref: LV-B3-Q4
	Drawer Outgoing Feeder	

Date : 27 / 6 /2021	Customer : ENPI
Site Location: 6- Agrud Area 031-SUB-LVSWG-1	Project : EGPC Crude oil Tank Farm
Order Number : S2000	Equipment Tag: Blokset
Rated Voltage: 400V	Service voltage : 400V

Functional operational tests for LV Outgoing

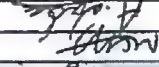

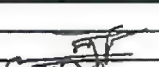
Mechanical and Electrical inspection		
DESCRIPTION	STATUS	NOTE
1	ok	Check the Mechanical Operation for Drawer (Connect, Test, Disconnect) and Interlock.
1	ok	Insure that the auxiliary supply required for the operation is connected.
2	ok	Check the Electrical closing/opening and Interlock of the Outgoing (Local & Remote) from HMI and T.B
3	Ok	Check the electrical indicators which are present with Operation (Close + Open)
4	ok	Check the Electrical Emergency Stop of the Outgoing during External Field from T.B
5	ok	Check the status for Outgoing from T.B


Testys-T Trip Units:

Outgoing Number: B3-Q4	Outgoing Rate: 30KW	Type of Topical: A1.12
Rating Current : 65A	Trip Class:10	Full Load Current:5A

Function	Enable	I Adjusted	I injected	T adjusted	T measured
Thermal Over load F49	DT	100%	5.3A	5 Sec	5.013SEC
Earth Fault F50G	DT	1A	1.2A	500ms	512 MS
Imbalance F46	DT	-	-	-	-
Over Current F51	N/A	-	-	-	-
Long Start F51R	DT	100%	5.2A	5 Sec	5.017 SEC
Jam F51S	DT	200%	10.5A	5 Sec	5.012 SEC

Not's: Before the Insulation Resistance Test Must be remove the cable for Fuse Monitor

Test Info	Name	Company	Date	Signature
Comm. supervisor	Mahmoud abd elnour	Schneider	30/6/2021	
Customer:	Eng.Ahmed nadeem	ENPI	30/6/2021	
PPC:	Eng.mohamed ibrahem	PPC	30/6/2021	

	Operation and Test of Drawer Outgoing Feeder		Ref: LV- B3-Q5

Date : 27 / 6 /2021	Customer : ENPPI
Site Location: 6- Agrood Area 031-SUB-LVSWG-1	Project : EGPC Crude oil Tank Farm
Order Number : S2000	Equipment Tag: Blokset
Rated Voltage:400V	Service voltage : 400V

Functional operational tests for LV Outgoing

Mechanical and Electrical inspection		
DESCRIPTION	STATUS	NOTE
1	ok	Check the Mechanical Operation for Drawer (Connect, Test, Disconnect) and Interlock.
1	ok	Insure that the auxiliary supply required for the operation is connected.
2	ok	Check the Electrical closing/opening and Interlock of the Outgoing (Local & Remote) from HMI and T.B
3	Ok	Check the electrical indicators which are present with Operation (Close + Open)
4	ok	Check the Electrical Emergency Stop of the Outgoing during External Field from T.B
5	ok	Check the status for Outgoing from T.B


Tests-T Trip Units:

Outgoing Number: B3-Q5	Outgoing Rate: 30KW	Type of Topical: A1.12
Rating Current : 65A	Trip Class:10	Full Load Current:5A

Function	Enable	I Adjusted	I injected	T adjusted	T measured
Thermal Over load	DT	100%	5.3A	5 Sec	5.012SEC
Earth Fault	DT	1A	1.2A	500ms	519 MS
Imbalance	DT	-	-	-	-
F46	DT	-	-	-	-
Over Current	N/A	-	-	-	-
F51	N/A	-	-	-	-
Long Start	DT	100%	5.2A	5 Sec	5.016 SEC
F51R	DT	200%	10.5A	5 Sec	5.010 SEC
Jam	DT	200%	10.5A	5 Sec	5.010 SEC

Not's: Before the Insulation Resistance Test Must be remove the cable for Fuse Monitor

Test Info	Name	Company	Date	Signature
Comm. supervisor	Mahmoud abd elnour	Schneider	30/6/2021	
Customer:	Eng.Ahmed nadeem	ENPPI	30/6/2021	
RPC:	Eng.mohamed Ibrahim	AP.C	30/6/2021	

	Operation and Test of	Ref: LV-Q2-Q1
	Drawer Outgoing Feeder	

Date : 27 / 6 / 2021	Customer : ENPPI
Site Location: 6- Agrood Area 031-SUB-LVSWG-1	Project : EGPC Crude oil Tank Farm
Order Number : S2000	Equipment Tag: Blockset
Rated Voltage: 400V	Service voltage : 400V

Functional operational tests for LV Outgoing

Mechanical and Electrical inspection		
	DESCRIPTION	STATUS
1	Check the Mechanical Operation for Drawer (Connect, Test, Disconnect) and Interlock.	ok
1	Insure that the auxiliary supply required for the operation is connected.	ok
2	Check the Electrical closing/opening and Interlock of the Outgoing (Local & Remote) from HMI and T.B	ok
3	Check the electrical indicators which are present with Operation (Close + Open)	OK
4	Check the Electrical Emergency Stop of the Outgoing during External Field from T.B	ok
5	Check the status for Outgoing from T.B	ok

Tests-T Trip Units:

Outgoing Number: Q2-Q1	Outgoing Rate: 4.4KW	Type of Topical: A1.12
Rating Current : 30A	Trip Class:10	Full Load Current:5A

Function	Enable	I Adjusted	I injected	T adjusted	T measured
Thermal Over load	DT	100%	5.3A	5 Sec	5.010 SEC
Earth Fault	DT	1A	1.2A	500ms	510 MS
Imbalance	DT	-	-	-	-
F46	DT	-	-	-	-
Over Current	N/A	-	-	-	-
F51					
Long Start	DT	100%	5.2A	5 Sec	5.019 SEC
F51R					
Jam	DT	200%	10.5A	5 Sec	5.015 SEC

Not's: Before the Insulation Resistance Test Must be remove the cable for Fuse Monitor

Test Info	Name	Company	Date	Signature
Comm. supervisor	Mahmoud abd elnour	Schneider	30/6/2021	
Customer:	Eng.Ahmed nadeem	ENPPI	30/6/2021	
PRC:	Eng.mohamed ibrahim	PPC	30/6/2021	

Date : 27 / 6 / 2021	Customer : ENPPI
Site Location: 6- Agrod Area 031-SUB-LVSWG-1	Project : EGPC Crude oil Tank Farm
Order Number : S2000	Equipment Tag: Blockset
Rated Voltage: 400V	Service voltage : 400V

Functional operational tests for LV Outgoing

Mechanical and Electrical inspection		
DESCRIPTION	STATUS	NOTE
1	Check the Mechanical Operation for Drawer (Connect, Test, Disconnect) and Interlock.	ok
1	Insure that the auxiliary supply required for the operation is connected.	ok
2	Check the Electrical closing/opening and Interlock of the Outgoing (Local & Remote) from HMI and T.B	ok
3	Check the electrical indicators which are present with Operation (Close + Open)	Ok
4	Check the Electrical Emergency Stop of the Outgoing during External Field from T.B	ok
5	Check the status for Outgoing from T.B	ok

Tests-T Trip Units:

Outgoing Number: Q2-Q2	Outgoing Rate: 5.5KW	Type of Topical: A1.12
Rating Current : 30A	Trip Class:10	Full Load Current:5A

Function	Enable	I Adjusted	I injected	T adjusted	T measured
Thermal Over load	DT	100%	5.3A	5 Sec	5.014 SEC
Earth Fault	DT	1A	1.2A	500ms	510 MS
Imbalance	DT	-	-	-	-
F46	DT	-	-	-	-
Over Current	N/A	-	-	-	-
F51					
Long Start	DT	100%	5.2A	5 Sec	5.019 SEC
F51R					
Jam	DT	200%	10.5A	5 Sec	5.011 SEC
F51S					

Not's: Before the Insulation Resistance Test Must be remove the cable for Fuse Monitor

Test Info	Name	Company	Date	Signature
Comm. supervisor	Mahmoud abd elnour	Schneider	30/6/2021	
Customer:	Eng.Ahmed nadeem	Enppi	30/6/2021	
RPC:	Eng.mohammed ibrahim	BP.C	30/6/2021	

Date : 27 / 6 / 2021	Customer : ENPPI	Project : EGPC Crude oil Tank Farm	Order Number : S2000	Rated Voltage: 400V
Site Location: 6- Agroud Area 031-SUB-LVSWG-1	Equipment Tag: Blokset	Service Voltage : 400V		

Functional operational tests for LV Outgoing

Mechanical and Electrical Inspection		
DESCRIPTION	STATUS	NOTE
1	Check the Mechanical Operation for Drawer (Connect, Test, Disconnect) and Interlock.	ok
1	Insure that the auxiliary supply required for the operation is connected.	ok
2	Check the Electrical closing/opening and interlock of the Outgoing (Local & Remote) from HMI and T.B	ok
3	Check the electrical indicators which are present with Operation (Close + Open)	Ok
4	Check the Electrical Emergency Stop of the Outgoing during External Field from T.B	ok
5	Check the status for Outgoing from T.B	ok


Tests-T Trip Units:

Outgoing Number: Q2-Q3	Outgoing Rate: 5.5KW	Type of Topical: A1.12
Rating Current : 40A	Trip Class:10	Full Load Current:5A

Function	Enable	I Adjusted	I injected	T adjusted	T measured
Thermal Over load	DT	100%	5.3A	5 Sec	5.015 SEC
Earth Fault	DT	1A	1.2A	500ms	511 MS
Imbalance	DT	-	-	-	-
F46	DT	-	-	-	-
Over Current	N/A	-	-	-	-
FSI	-	-	-	-	-
Long Start	DT	100%	5.2A	5 Sec	5.013 SEC
FSIR	DT	200%	10.5A	5 Sec	5.012 SEC
Jam	DT	-	-	-	-
FSIS	-	-	-	-	-

Not's: Before the Insulation Resistance Test Must be remove the cable for Fuse Monitor

Test Info	Name	Company	Date	Signature
Comm. supervisor	Mahmoud abd elnour	Schneider	30/6/2021	M.H.
Customer:	Eng.Ahmed nadeem	ENPPI	30/6/2021	A.H.
PPC:	Eng.mohamed ibrahem	PP.C	30/6/2021	I.B.

	Operation and Test of	Ref: LV-Q2-Q4
	Drawer Outgoing Feeder	

Date : 27 / 6 /2021	Customer : ENPPI
Site Location: 6- Agrud Area 031-SUB-LVSWG-1	Project : EGPC Crude oil Tank Farm
Order Number : S2000	Equipment Tag: Blokset
Rated Voltage:400V	Service voltage : 400V

Functional operational tests for LV Outgoing

Mechanical and Electrical inspection		
DESCRIPTION	STATUS	NOTE
1	ok	Check the Mechanical Operation for Drawer (Connect, Test, Disconnect) and Interlock.
1	ok	Insure that the auxiliary supply required for the operation is connected.
2	ok	Check the Electrical closing/opening and interlock of the Outgoing (Local & Remote) from HMI and T.B
3	Ok	Check the electrical indicators which are present with Operation (Close + Open)
4	ok	Check the Electrical Emergency Stop of the Outgoing during External Field from T.B
5	ok	Check the status for Outgoing from T.B


Tesys-T Trip Units:

Outgoing Number: Q2-Q4	Outgoing Rate: 30KW	Type of Topical: A1.12
Rating Current : 65A	Trip Class:10	Full Load Current:5A

Function	Enable	I Adjusted	I injected	T adjusted	T measured
Thermal Over load	DT	100%	5.3A	5 Sec	5.010 SEC
Earth Fault	DT	1A	1.2A	500ms	517 MS
Imbalance	DT	-	-	-	-
F46	DT	-	-	-	-
Over Current	N/A	-	-	-	-
F51					
Long Start	DT	100%	5.2A	5 Sec	5.012 SEC
Jam	DT	200%	10.5A	5 Sec	5.015 SEC
F51S					

Not's: Before the Insulation Resistance Test Must be remove the cable for Fuse Monitor

Test Info	Name	Company	Date	Signature
Comm. supervisor	Mahmoud abd elnour	Schneider	30/6/2021	
Customer:	Eng.Ahmed nadeem	ENPPI	30/6/2021	
PPC:	Eng.mohamed ibrahem	PP.C	30/6/2021	

	Operation and Test of	Ref: LV-Q2-Q5
	Drawer Outgoing Feeder	

Date : 27 / 6 / 2021	Customer : ENPPI
Site Location: 6- Agrod Area 031-SUB-LVSWG-1	Project : EGPC Crude oil Tank Farm
Order Number : S2000	Equipment Tag: Blokset
Rated Voltage: 400V	Service Voltage : 400V

Functional operational tests for LV Outgoing

Mechanical and Electrical inspection		
DESCRIPTION	STATUS	NOTE
1	ok	Check the Mechanical Operation for Drawer (Connect, Test, Disconnect) and Interlock.
1	ok	Insure that the auxiliary supply required for the operation is connected.
2	ok	Check the Electrical closing/opening and interlock of the Outgoing (Local & Remote) from HMI and T.B
3	Ok	Check the electrical indicators which are present with Operation (Close + Open)
4	ok	Check the Electrical Emergency Stop of the Outgoing during External Field from T.B
5	ok	Check the status for Outgoing from T.B



Tests-T Trip Units:

Outgoing Number: Q2-Q5	Outgoing Rate: 30KW	Type of Topical: A1.12
Rating Current : 65A	Trip Class:10	Full Load Current:5A

Function	Enable	I Adjusted	I injected	T adjusted	T measured
Thermal Over load	DT	100%	5.3A	5 Sec	5.012 SEC
Earth Fault	DT	1A	1.2A	500ms	518 MS
Imbalance	DT	-	-	-	-
F46	DT	-	-	-	-
Over Current	N/A	-	-	-	-
F51	N/A	-	-	-	-
Long Start	DT	100%	5.2A	5 Sec	5.014 SEC
F51R	DT	200%	10.5A	5 Sec	5.013 SEC
Jam	DT	200%	10.5A	5 Sec	5.013 SEC

Not's: Before the Insulation Resistance Test Must be remove the cable for Fuse Monitor

Test Info	Name	Company	Date	Signature
Comm. supervisor	Mahmoud abd elnour	Schneider	30/6/2021	
Customer:	Eng. Ahmed nadeem	ENPPI	30/6/2021	
PPC:	Eng. Mohamed Ibrahim	PPC	30/6/2021	

<div><div>Enppi</div><div>CRUDE OIL TANK FARM PROJECT (AGROOD AREA)</div><div>Project: 01251-100</div><div><div>النفط العربي</div></div></div>		System ID	030-EL-005	System Description	Substation 400V Low Voltage Motor Control Center System
<div>12.10- Electrical Pre-Commissioning Check Lists</div>					

PRE-COMMISSIONING CHECK LIST
LOW VOLTAGE CABLES
EL-30 A

PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)

PROJECT NUMBER : 1251-100

SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System

SUB-SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System

ITEM TAG No. : C1-030-SUB-LVSWG-1B

AREA : 30

REF. DWGS/DOCS :

No.	DESCRIPTION	RESULT	OK/NA/PL	ITEM No.
		PL		

1 Construction punch list to be checked.

✓

2 Check cables are correctly fixed to trays and supports.

✓

3 Check cables through walls or ceilings are correctly sealed.

NA

4 Check that all cables (power/ control) are installed in accordance with cable lists and approved documents.

✓

5 Check identification tags of all conductors and wires.

✓

6 Check connection, tightness, termination and joints of cables are correctly executed.

✓

7 Check where conductors have been terminated using crimped connections; ensure the correct size and type of crimping lugs.

✓

8 Check that the bending radius of cables is not less than the minimum established.

✓

9 Cable markers to be installed before covering buried cables or cables in cable trays.

✓

10 Tie wraps to be used for cable and wires fixation.

✓

11 Cable connections shall be torque tested.

NA

REMARKS AND OBSERVATIONS :

OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.

COMPANY	PETROJET	ENPPI	PMC
NAME			
SIGNATURE			
DATE			

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PRE-COMMISSIONING CHECK LIST			
LOW VOLTAGE CABLES			
EL-30 A			
PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)			
PROJECT NUMBER : 1251-100		DISCIPLINE : Electrical	
SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System		SYSTEM ID : 030-EL-005	
SUB-SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System		SUB-SYSTEM ID : 030-EL-005	
ITEM TAG No. : C1-030-SUB-LVSWG-1B		AREA : 30	
REF. DWGS/DOCS :			
No.	DESCRIPTION	RESULT	ITEM No.
12	Check that buried cables are correctly covered and protected.	N/A	
13	Trench markers to be checked w.r.t approved documents.	N/A	
14	Check cable glands for tightness & check the correct type of gland has been used for the size and type of installed cables.	/	
15	Inspect cable laid in trenches, segregation and protection.	/	
16	Cables to be tested (continuity/insulation resistance). (*)	/	
17	Equipment test report and inspection certificate to be checked.	N/A	
18	Check availability of vendor documents, including commissioning and start-up instructions. (If Any)	N/A	
19	Calibration test certificate of testing equipment to be checked.	/	
REMARKS AND OBSERVATIONS : (*) Refer to table (III).			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	PETROJET	ENPPI	PMC
NAME			
SIGNATURE			
DATE			



PRE-COMMISSIONING CHECK LIST
LOW VOLTAGE CABLES
EL-30 A

INSULATION TEST

LOW VOLTAGE CABLES

CABLE VOLTAGE LEVEL	D.C TEST VOLTAGE	MINIMUM INSULATION RESISTANCE (M.OHMS).
1000V	1000V	200

TABLE (III)

NOTES:

Manufacturer's test voltage & minimum values for insulation resistance should be referenced.

PRE-COMMISSIONING CHECK LIST			
LOW VOLTAGE CABLES			
EL-30 A			
PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)			
PROJECT NUMBER : 1251-100		DISCIPLINE : Electrical	
SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System		SYSTEM ID : 030-EL-005	
SUB-SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System		SUB-SYSTEM ID : 030-EL-005	
ITEM TAG No. : 030-SUB-L-VBD-1B		AREA : 30	
REF. DWGS/DOCS :			
No.	DESCRIPTION	RESULT	OK/NA/PL
PL	ITEM No.		
1	Construction punch list to be checked.	✓	
2	Check cables are correctly fixed to trays and supports.	✓	
3	Check cables through walls or ceilings are correctly sealed.	NA	
4	Check that all cables (power/ control) are installed in accordance with cable lists and approved documents.	✓	
5	Check identification tags of all conductors and wires.	✓	
6	Check connection, tightness, termination and joints of cables are correctly executed.	✓	
7	Check where conductors have been terminated using crimped connections; ensure the correct size and type of crimping lugs.	✓	
8	Check that the bending radius of cables is not less than the minimum established.	✓	
9	Cable markers to be installed before covering buried cables or cables in cable trays.	✓	
10	The wraps to be used for cable and wires fixation.	✓	
11	Cable connections shall be torque tested.	NA	
REMARKS AND OBSERVATIONS :			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	PETROJET	ENPPI	PMC
NAME			
SIGNATURE			
DATE			

PRE-COMMISSIONING CHECK LIST			
LOW VOLTAGE CABLES			
EL-30 A			
PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)			
PROJECT NUMBER : 1251-100		DISCIPLINE : Electrical	
SYSTEM NAME : Substation 400V Low Voltage Motor		SYSTEM ID : 030-EL-005	
SUB-SYSTEM NAME : Substation 400V Low Voltage Motor		SUB-SYSTEM ID : 030-EL-005	
ITEM TAG No. : 030-SUB-LVBD-1B		AREA : 30	
REF. DWGS/DOCS :			
No.	DESCRIPTION	RESULT	ITEM No.
12	Check that buried cables are correctly covered and protected.	NA	
13	Trench markers to be checked w.r.t approved documents.	NA	
14	Check cable glands for tightness & check the correct type of gland has been used for the size and type of installed cables.	✓	
15	Inspect cable laid in trenches, segregation and protection.	✓	
16	Cables to be tested (continuity/insulation resistance). (*)	✓	
17	Equipment test report and inspection certificate to be checked.	NA	
18	Check availability of vendor documents, including commissioning and start-up instructions. (If Any)	NA	
19	Calibration test certificate of testing equipment to be checked.	✓	
REMARKS AND OBSERVATIONS :			
(*) Refer to table (III).			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	PETROJET	ENPPI	PMC
NAME			
SIGNATURE			
DATE			

LOW VOLTAGE CABLES

NOTES:

Manufacturer's test voltage & minimum values for insulation resistance should be referenced.

PRE-COMMISSIONING CHECK LIST
LOW VOLTAGE CABLES
EL-30 A

PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)	
PROJECT NUMBER : 1251-100	DISCIPLINE : Electrical
SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System	SYSTEM ID : 030-EL-005
SUB-SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System	SUB-SYSTEM ID : 030-EL-005
ITEM TAG No. : P1-030-SUB-LVSWG-1B	AREA : 30
REF. DWGS/DOCS :	

No.	DESCRIPTION	RESULT	ITEM No.
		PL	
1	Construction punch list to be checked.	✓	
2	Check cables are correctly fixed to trays and supports.	✓	
3	Check cables through walls or ceilings are correctly sealed.	NA	
4	Check that all cables (power/ control) are installed in accordance with cable lists and approved documents.	✓	
5	Check identification tags of all conductors and wires.	✓	
6	Check connection, tightness, termination and joints of cables are correctly executed.	✓	
7	Check where conductors have been terminated using crimped connections; ensure the correct size and type of crimping lugs.	✓	
8	Check that the bending radius of cables is not less than the minimum established.	✓	
9	Cable markers to be installed before covering buried cables or cables in cable trays.	✓	
10	Tie wraps to be used for cable and wires fixation.	✓	
11	Cable connections shall be torque tested.	NA	

REMARKS AND OBSERVATIONS :

OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.

COMPANY	PETROJET	ENPPI	PMC
NAME			
SIGNATURE			
DATE			

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PRE-COMMISSIONING CHECK LIST
LOW VOLTAGE CABLES
EL-30 A

PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)	
PROJECT NUMBER : 1251-100	DISCIPLINE : Electrical
SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System	SYSTEM ID : 030-EL-005
SUB-SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System	SUB-SYSTEM ID : 030-EL-005
ITEM TAG No. : P1-030-SUB-LVSWG-1B	AREA : 30
REF. DWGS/DOCS :	

No.	DESCRIPTION	RESULT	ITEM No.
		OK/NA/PL	
12	Check that buried cables are correctly covered and protected.	NA	
13	Trench markers to be checked w.r.t approved documents.	NA	
14	Check cable glands for tightness & check the correct type of gland has been used for the size and type of installed cables.	✓	
15	Inspect cable laid in trenches, segregation and protection.	✓	
16	Cables to be tested (continuity/insulation resistance). (*)	✓	
17	Equipment test report and inspection certificate to be checked.	NA	
18	Check availability of vendor documents, including commissioning and start-up instructions. (If Any)	NA	
19	Calibration test certificate of testing equipment to be checked.	✓	

REMARKS AND OBSERVATIONS :
 (*) Refer to table (III).

OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.

COMPANY	PETROJET	ENPPI	PMC
NAME			
SIGNATURE			
DATE			

NOTES: Manufacturer's test voltage & minimum values for insulation resistance should be referenced.

TABLE (III)

1000V	1000V	200
CABLE VOLTAGE LEVEL	D.C TEST VOLTAGE	MINIMUM INSULATION RESISTANCE (M.OHMS).

INSULATION TEST
LOW VOLTAGE CABLES

PRE-COMMISSIONING CHECK LIST
LOW VOLTAGE CABLES
EL-30 A



PRE-COMMISSIONING CHECK LIST
LOW VOLTAGE CABLES
EL-30 A

PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)

PROJECT NUMBER : 1251-100

SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System

SYSTEM ID : 030-EL-005

SUB-SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System

SUB-SYSTEM ID : 030-EL-005

ITEM TAG No. : P1-030-SUB-LVSWG-1A

AREA : 30

REF. DWGS/DOCS :

No.

DESCRIPTION

RESULT

ITEM No.

1 Construction punch list to be checked.

✓

2 Check cables are correctly fixed to trays and supports.

✓

3 Check cables through walls or ceilings are correctly sealed.

NA

4 Check that all cables (power/ control) are installed in accordance with cable lists and approved documents.

✓

5 Check identification tags of all conductors and wires.

✓

6 Check connection, tightness, termination and joints of cables are correctly executed.

✓

7 Check where conductors have been terminated using crimped connections; ensure the correct size and type of crimping lugs.

✓

8 Check that the bending radius of cables is not less than the minimum established.

✓

9 Cable markers to be installed before covering buried cables or cables in cable trays.

✓

10 Tie wraps to be used for cable and wires fixation.

✓

11 Cable connections shall be torque tested.

NA

REMARKS AND OBSERVATIONS :

OK : NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.

COMPANY

PETROJET

ENPPI

PMC

NAME

SIGNATURE

DATE

10000-Z-000-EK7-TMP-0014 (03/14)

PRE-COMMISSIONING CHECK LIST			
LOW VOLTAGE CABLES			
EL-30 A			
PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)			
PROJECT NUMBER : 1251-100		DISCIPLINE : Electrical	
SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System		SYSTEM ID : 030-EL-005	
SUB-SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System		SUB-SYSTEM ID : 030-EL-005	
ITEM TAG No. : P1-030-SUB-LVSWG-1A		AREA : 30	
REF. DWGS/DOCS :			
No.	DESCRIPTION	RESULT	ITEM No.
12	Check that buried cables are correctly covered and protected.	NA	
13	Trench markers to be checked w.r.t approved documents.	NA	
14	Check cable glands for tightness & check the correct type of gland has been used for the size and type of installed cables.	✓	
15	Inspect cable laid in trenches, segregation and protection.	✓	
16	Cables to be tested (continuity/insulation resistance). (*)	✓	
17	Equipment test report and inspection certificate to be checked.	NA	
18	Check availability of vendor documents, including commissioning and start-up instructions. (If Any)	NA	
19	Calibration test certificate of testing equipment to be checked.	✓	
REMARKS AND OBSERVATIONS :			
(*) Refer to table (III).			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	PETROJET	ENPPI	PMC
NAME			
SIGNATURE			
DATE			



**PRE-COMMISSIONING CHECK LIST
LOW VOLTAGE CABLES
EL-30 A**

INSULATION TEST

LOW VOLTAGE CABLES

CABLE VOLTAGE LEVEL	D.C TEST VOLTAGE	MINIMUM INSULATION RESISTANCE (M.OHMS).
1000V	1000V	200

TABLE [III]

NOTES:

Manufacturer's test voltage & minimum values for insulation resistance should be referenced.

PRE-COMMISSIONING CHECK LIST
LOW VOLTAGE CABLES
EL-30 A

PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)

PROJECT NUMBER : 1251-100

DISCIPLINE : Electrical

SYSTEM NAME : Substation 400V Low Voltage Motor

SYSTEM ID : 030-EL-005

SUB-SYSTEM NAME : Substation 400V Low Voltage Motor

SUB-SYSTEM ID : 030-EL-005

ITEM TAG No. : D-030-SUB-LVSWG-1B

AREA : 30

REF. DWGS/DOCS :

No.	DESCRIPTION	RESULT	OK/NA/PL	ITEM No.
		PL		

1	Construction punch list to be checked.	✓		
2	Check cables are correctly fixed to trays and supports.	✓		
3	Check cables through walls or ceilings are correctly sealed.	NA		
4	Check that all cables (power/ control) are installed in accordance with cable lists and approved documents.	✓		
5	Check identification tags of all conductors and wires.	✓		
6	Check connection, tightness, termination and joints of cables are correctly executed.	✓		
7	Check where conductors have been terminated using crimped connections; ensure the correct size and type of crimping lugs.	✓		
8	Check that the bending radius of cables is not less than the minimum established.	✓		
9	Cable markers to be installed before covering buried cables or cables in cable trays.	✓		
10	Tie wraps to be used for cable and wires fixation.	✓		
11	Cable connections shall be torque tested.	NA		

REMARKS AND OBSERVATIONS :

OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.

COMPANY	PETROJET	ENPPI	PMC
NAME			
SIGNATURE			
DATE			

PRE-COMMISSIONING CHECK LIST			
LOW VOLTAGE CABLES			
EL-30 A			
PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)			
PROJECT NUMBER : 1251-100			
SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System		SYSTEM ID : 030-EL-005	
SUB-SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System		SUB-SYSTEM ID : 030-EL-005	
ITEM TAG No. : D-030-SUB-LVSWG-1B		AREA : 30	
REF. DWGS/DOCS :			
No.	DESCRIPTION	RESULT	ITEM No.
12	Check that buried cables are correctly covered and protected.	NA	
13	Trench markers to be checked w.r.t approved documents.	NA	
14	Check cable glands for tightness & check the correct type of gland has been used for the size and type of installed cables.	✓	
15	Inspect cable laid in trenches, segregation and protection.	✓	
16	Cables to be tested (continuity/insulation resistance). (*)	✓	
17	Equipment test report and inspection certificate to be checked.	NA	
18	Check availability of vendor documents, including commissioning and start-up instructions. (If Any)	NA	
19	Calibration test certificate of testing equipment to be checked.	✓	
REMARKS AND OBSERVATIONS :			
(*) Refer to table (III).			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	PETROJET	ENPPI	PMC
NAME			
SIGNATURE			
DATE			

**PRE-COMMISSIONING CHECK LIST
LOW VOLTAGE CABLES
EL-30 A**

INSULATION TEST

LOW VOLTAGE CABLES

CABLE VOLTAGE LEVEL	D.C TEST VOLTAGE	MINIMUM INSULATION RESISTANCE (M.OHMS).
1000V	1000V	200

TABLE (III)

NOTES:

Manufacturer's test voltage & minimum values for insulation resistance should be referenced.

PRE-COMMISSIONING CHECK LIST
LOW VOLTAGE CABLES
EL-30 A

PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)

PROJECT NUMBER : 1251-100

DISCIPLINE : Electrical

SYSTEM NAME : Substation 400V Low Voltage Motor

SYSTEM ID : 030-EL-005

SUB-SYSTEM NAME : Substation 400V Low Voltage Motor

SUB-SYSTEM ID : 030-EL-005

ITEM TAG No. : D-030-SUB-LVSWG-1A

AREA : 30

REF. DWGS/DOCS :

No.	DESCRIPTION	RESULT	OK/NA/PL	ITEM No.
		PL		

1 Construction punch list to be checked.

✓

2 Check cables are correctly fixed to trays and supports.

✓

3 Check cables through walls or ceilings are correctly sealed.

NA

4 Check that all cables (power/ control) are installed in accordance with cable lists and approved documents.

✓

5 Check identification tags of all conductors and wires.

✓

6 Check connection, tightness, termination and joints of cables are correctly executed.

✓

7 Check where conductors have been terminated using crimped connections; ensure the correct size and type of crimping lugs.

✓

8 Check that the bending radius of cables is not less than the minimum established.

✓

9 Cable markers to be installed before covering buried cables or cables in cable trays.

✓

10 Tie wraps to be used for cable and wires fixation.

✓

11 Cable connections shall be torque tested.

NA

REMARKS AND OBSERVATIONS :

OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.

COMPANY	PETROJET	ENPPI	PMC
NAME			
SIGNATURE			
DATE			

PRE-COMMISSIONING CHECK LIST			
LOW VOLTAGE CABLES			
EL-30 A			
PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)			
PROJECT NUMBER : 1251-100		DISCIPLINE : Electrical	
SYSTEM NAME : Substation 400V Low Voltage Motor		SYSTEM ID : 030-EL-005	
SUB-SYSTEM NAME : Substation 400V Low Voltage Motor		SUB-SYSTEM ID : 030-EL-005	
ITEM TAG No. : D-030-SUB-LVSWG-1A		AREA : 30	
REF. DWGS/DOCS :			
No.	DESCRIPTION	RESULT	ITEM No.
12	Check that buried cables are correctly covered and protected.	NA	
13	Trench markers to be checked w.r.t approved documents.	NA	
14	Check cable glands for tightness & check the correct type of gland has been used for the size and type of installed cables.	✓	
15	Inspect cable laid in trenches, segregation and protection.	✓	
16	Cables to be tested (continuity/insulation resistance). (*)	✓	
17	Equipment test report and inspection certificate to be checked.	NA	
18	Check availability of vendor documents, including commissioning and start-up instructions. (If Any)	NA	
19	Calibration test certificate of testing equipment to be checked.	✓	
REMARKS AND OBSERVATIONS :			
(*) Refer to table (III).			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	PETROJET	ENPPI	PMC
NAME			
SIGNATURE			
DATE			

LOW VOLTAGE CABLES

EL-30 A

INSULATION TEST

LOW VOLTAGE CABLES

NOTES:

Manufacturer's test voltage & minimum values for insulation resistance should be referenced.

TABLE (III)

PRE-COMMISSIONING CHECK LIST LOW VOLTAGE CABLES EL-30 A			
PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)			
PROJECT NUMBER : 1251-100		DISCIPLINE : Electrical	
SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System		SYSTEM ID : 030-EL-005	
SUB-SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System		SUB-SYSTEM ID : 030-EL-005	
ITEM TAG No. : 030-SUB-LVSWG-1		AREA : 30	
REF. DWGS/DOCS :			
No.	DESCRIPTION	RESULT	OK/NA/PL ITEM No.
1	Construction punch list to be checked.	✓	
2	Check cables are correctly fixed to trays and supports.	✓	
3	Check cables through walls or ceilings are correctly sealed.	NA	
4	Check that all cables (power/ control) are installed in accordance with cable lists and approved documents.	✓	
5	Check identification tags of all conductors and wires.	✓	
6	Check connection, tightness, termination and joints of cables are correctly executed.	✓	
7	Check where conductors have been terminated using crimped connections; ensure the correct size and type of crimping lugs.	✓	
8	Check that the bending radius of cables is not less than the minimum established.	✓	
9	Cable markers to be installed before covering buried cables or cables in cable trays.	✓	
10	Tie wraps to be used for cable and wires fixation.	✓	
11	Cable connections shall be torque tested.	NA	
REMARKS AND OBSERVATIONS :			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	PETROJET	ENPPI	PMC
NAME			
SIGNATURE			
DATE			

PRE-COMMISSIONING CHECK LIST
LOW VOLTAGE CABLES
EL-30 A

PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)

PROJECT NUMBER : 1251-100

DISCIPLINE : Electrical

SYSTEM NAME : Substation 400V Low Voltage Motor

SYSTEM ID : 030-EL-005

SUB-SYSTEM NAME : Substation 400V Low Voltage Motor

SUB-SYSTEM ID : 030-EL-005

ITEM TAG No. : 030-SUB-LVSWG-1

AREA : 30

REF. DWGS/DOCS :

No.

DESCRIPTION

RESULT

OK/NA/PL

ITEM No.

12 Check that buried cables are correctly covered and protected.

NA

13 Trench markers to be checked w.r.t approved documents.

NA

14 Check cable glands for tightness & check the correct type of gland has been used for the size and type of installed cables.

✓

15 Inspect cable laid in trenches, segregation and protection.

✓

16 Cables to be tested (continuity/insulation resistance). (*)

✓

17 Equipment test report and inspection certificate to be checked.

NA

18 Check availability of vendor documents, including commissioning and start-up instructions. (If Any)

NA

19 Calibration test certificate of testing equipment to be checked.

✓

REMARKS AND OBSERVATIONS :

(*) Refer to table (III).

OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.

COMPANY

PETROJET

ENPPI

PMC

NAME

SIGNATURE

DATE



PRE-COMMISSIONING CHECK LIST
LOW VOLTAGE CABLES
EL-30 A

INSULATION TEST

LOW VOLTAGE CABLES

CABLE VOLTAGE LEVEL	D.C TEST VOLTAGE	MINIMUM INSULATION RESISTANCE (M.OHMS).
1000V	1000V	200

TABLE [III]

NOTES:

Manufacturer's test voltage & minimum values for insulation resistance should be referenced.

PRE-COMMISSIONING CHECK LIST
LOW VOLTAGE CABLES
EL-30 A

PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)

PROJECT NUMBER : 1251-100

DISCIPLINE : Electrical

SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System

SYSTEM ID : 030-EL-005

SUB-SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System

SUB-SYSTEM ID : 030-EL-005

ITEM TAG No. : 030-SUB-LVBD-1A

AREA : 30

REF. DWGS/DOCS :

No.	DESCRIPTION	RESULT	
		OK/NA/PL	ITEM No.

1	Construction punch list to be checked.	✓	
2	Check cables are correctly fixed to trays and supports.	✓	
3	Check cables through walls or ceilings are correctly sealed.	NA	
4	Check that all cables (power/ control) are installed in accordance with cable lists and approved documents.	✓	
5	Check identification tags of all conductors and wires.	✓	
6	Check connection, tightness, termination and joints of cables are correctly executed.	✓	
7	Check where conductors have been terminated using crimped connections; ensure the correct size and type of crimping lugs.	✓	
8	Check that the bending radius of cables is not less than the minimum established.	✓	
9	Cable markers to be installed before covering buried cables or cables in cable trays.	✓	
10	Tie wraps to be used for cable and wires fixation.	✓	
11	Cable connections shall be torque tested.	NA	

REMARKS AND OBSERVATIONS :

OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.

COMPANY	PETROJET	ENPPI	PMC
NAME			
SIGNATURE			
DATE			

10000-Z-000-EK7-TMP-0014 (03/14)

PRE-COMMISSIONING CHECK LIST			
LOW VOLTAGE CABLES			
EL-30 A			
PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)			
PROJECT NUMBER : 1251-100		DISCIPLINE : Electrical	
SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System		SYSTEM ID : 030-EL-005	
SUB-SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System		SUB-SYSTEM ID : 030-EL-005	
ITEM TAG No. : 030-SUB-LVBD-1A		AREA : 30	
REF. DWGS/DOCS :			
No.	DESCRIPTION	RESULT	OK/NA/PL
ITEM No.	PL	RESULT	OK/NA/PL
12	Check that buried cables are correctly covered and protected.	NA	
13	Trench markers to be checked w.r.t approved documents.	NA	
14	Check cable glands for tightness & check the correct type of gland has been used for the size and type of installed cables.	✓	
15	Inspect cable laid in trenches, segregation and protection.	✓	
16	Cables to be tested (continuity/insulation resistance). (*)	✓	
17	Equipment test report and inspection certificate to be checked.	NA	
18	Check availability of vendor documents, including commissioning and start-up instructions. (If Any)	NA	
19	Calibration test certificate of testing equipment to be checked.	✓	
REMARKS AND OBSERVATIONS :			
(*) Refer to table (III).			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	PETROJET	ENPPI	PMC
NAME			
SIGNATURE			
DATE			

LOW VOLTAGE CABLES

[illegible]

NOTES:

Manufacturer's test voltage & minimum values for insulation resistance should be referenced.

PRE-COMMISSIONING CHECK LIST			
LOW VOLTAGE CABLES			
EL-30 A			
PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)			
PROJECT NUMBER : 1251-100		DISCIPLINE : Electrical	
SYSTEM NAME : Substation 400V Low Voltage Motor		SYSTEM ID : 030-EL-005	
SUB-SYSTEM NAME : Substation 400V Low Voltage Motor		SUB-SYSTEM ID : 030-EL-005	
ITEM TAG No. : C2-030-SUB-LVSWG-1B		AREA : 30	
REF. DWGS/DOCS :			
No.	DESCRIPTION	RESULT	OK/NA/PL ITEM No.
1	Construction punch list to be checked.	✓	
2	Check cables are correctly fixed to trays and supports.	✓	
3	Check cables through walls or ceilings are correctly sealed.	NA	
4	Check that all cables (power/ control) are installed in accordance with cable lists and approved documents.	✓	
5	Check identification tags of all conductors and wires.	✓	
6	Check connection, tightness, termination and joints of cables are correctly executed.	✓	
7	Check where conductors have been terminated using crimped connections; ensure the correct size and type of crimping lugs.	✓	
8	Check that the bending radius of cables is not less than the minimum established.	✓	
9	Cable markers to be installed before covering buried cables or cables in cable trays.	✓	
10	Tie wraps to be used for cable and wires fixation.	✓	
11	Cable connections shall be torque tested.	NA	
REMARKS AND OBSERVATIONS :			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	PETROJET	ENPPI	PMC
NAME			
SIGNATURE			
DATE			

PRE-COMMISSIONING CHECK LIST			
LOW VOLTAGE CABLES			
EL-30 A			
PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)			
PROJECT NUMBER : 1251-100		DISCIPLINE : Electrical	
SYSTEM NAME : Substation 400V Low Voltage Motor		SYSTEM ID : 030-EL-005	
SUB-SYSTEM NAME : Substation 400V Low Voltage Motor		SUB-SYSTEM ID : 030-EL-005	
ITEM TAG No. : C2-030-SUB-LVSWG-1B		AREA : 30	
REF. DWGS/DOCS :			
No.	DESCRIPTION	RESULT	OK/NA/PL
ITEM No.			
12	Check that buried cables are correctly covered and protected.	NA	
13	Trench markers to be checked w.r.t approved documents.	NA	
14	Check cable glands for tightness & check the correct type of gland has been used for the size and type of installed cables.	✓	
15	Inspect cable laid in trenches, segregation and protection.	✓	
16	Cables to be tested (continuity/insulation resistance). (*)	✓	
17	Equipment test report and inspection certificate to be checked.	NA	
18	Check availability of vendor documents, including commissioning and start-up instructions. (If Any)	NA	
19	Calibration test certificate of testing equipment to be checked.	✓	
REMARKS AND OBSERVATIONS :			
(*) Refer to table (III).			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	PETROJET	ENPPI	PMC
NAME			
SIGNATURE			
DATE			



PRE-COMMISSIONING CHECK LIST
LOW VOLTAGE CABLES
EL-30 A

INSULATION TEST

LOW VOLTAGE CABLES

CABLE VOLTAGE LEVEL	D.C TEST VOLTAGE	MINIMUM INSULATION RESISTANCE (M.OHMS).
1000V	1000V	200

TABLE (III)

NOTES:

Manufacturer's test voltage & minimum values for insulation resistance should be referenced.

PRE-COMMISSIONING CHECK LIST
LOW VOLTAGE CABLES
EL-30 A

PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)

PROJECT NUMBER : 1251-100

DISCIPLINE : Electrical

SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System

SYSTEM ID : 030-EL-005

SUB-SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System

SUB-SYSTEM ID : 030-EL-005

ITEM TAG No. : C2-030-SUB-LVSWG-1A

AREA : 30


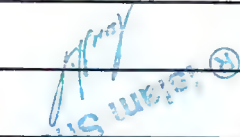
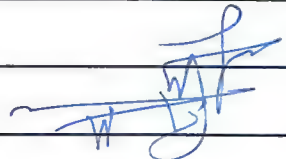
REF. DWGS/DOCS :

No.	DESCRIPTION	OK/NA/PL	ITEM No.
		RESULT	PL

1	Construction punch list to be checked.	✓	
2	Check cables are correctly fixed to trays and supports.	✓	
3	Check cables through walls or ceilings are correctly sealed.	NA	
4	Check that all cables (power/control) are installed in accordance with cable lists and approved documents.	✓	
5	Check identification tags of all conductors and wires.	✓	
6	Check connection, tightness, termination and joints of cables are correctly executed.	✓	
7	Check where conductors have been terminated using crimped connections; ensure the correct size and type of crimping lugs.	✓	
8	Check that the bending radius of cables is not less than the minimum established.	✓	
9	Cable markers to be installed before covering buried cables or cables in cable trays.	✓	
10	Tie wraps to be used for cable and wires fixation.	✓	
11	Cable connections shall be torque tested.	NA	

REMARKS AND OBSERVATIONS :

OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.

COMPANY	PETROJET	ENPPI	PMC
NAME			
SIGNATURE			
DATE			

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PRE-COMMISSIONING CHECK LIST			
LOW VOLTAGE CABLES			
EL-30 A			
PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)			
PROJECT NUMBER : 1251-100		DISCIPLINE : Electrical	
SYSTEM NAME : Substation 400V Low Voltage Motor		SYSTEM ID : 030-EL-005	
SUB-SYSTEM NAME : Substation 400V Low Voltage Motor		SUB-SYSTEM ID : 030-EL-005	
ITEM TAG No. : C2-030-SUB-LVSWG-1A		AREA : 30	
REF. DWGS/DOCS :			
No.	DESCRIPTION	RESULT	ITEM No.
12	Check that buried cables are correctly covered and protected.	NA	
13	Trench markers to be checked w.r.t approved documents.	NA	
14	Check cable glands for tightness & check the correct type of gland has been used for the size and type of installed cables.	✓	
15	Inspect cable laid in trenches, segregation and protection.	✓	
16	Cables to be tested (continuity/insulation resistance). (*)	✓	
17	Equipment test report and inspection certificate to be checked.	NA	
18	Check availability of vendor documents, including commissioning and start-up instructions. (If Any)	NA	
19	Calibration test certificate of testing equipment to be checked.	✓	
REMARKS AND OBSERVATIONS :			
(*) Refer to table (III).			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	PETROJET	ENPPI	PMC
NAME			
SIGNATURE			
DATE			

INSULATION TEST

**CABLE
VOLTAGE
LEVEL**

1000A

Λ0001

200

MINIMUM
INSULATION
RESISTANCE (M.OHMS).

TABLE (III)		
1000V	1000V	200
CABLE VOLTAGE LEVEL	D.C TEST VOLTAGE	MINIMUM INSULATION RESISTANCE (M.OHMS).

TABLE (III)

NOTES:

Manufacturer's test voltage & minimum values for insulation resistance should be referenced.

PRE-COMMISSIONING CHECK LIST			
LOW VOLTAGE CABLES			
EL-30 A			
PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)			
PROJECT NUMBER : 1251-100		DISCIPLINE : Electrical	
SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System		SYSTEM ID : 030-EL-005	
SUB-SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System		SUB-SYSTEM ID : 030-EL-005	
ITEM TAG No. : C3-030-SUB-LVSWG-1A		AREA : 30	
REF. DWGS/DOCS :			
No.	DESCRIPTION	RESULT	OK/NA/PL
PL	ITEM No.		
1	Construction punch list to be checked.	✓	
2	Check cables are correctly fixed to trays and supports.	✓	
3	Check cables through walls or ceilings are correctly sealed.	NA	
4	Check that all cables (power/ control) are installed in accordance with cable lists and approved documents.	✓	
5	Check identification tags of all conductors and wires.	✓	
6	Check connection, tightness, termination and joints of cables are correctly executed.	✓	
7	Check where conductors have been terminated using crimped connections; ensure the correct size and type of crimping lugs.	✓	
8	Check that the bending radius of cables is not less than the minimum established.	✓	
9	Cable markers to be installed before covering buried cables or cables in cable trays.	✓	
10	Tie wraps to be used for cable and wires fixation.	✓	
11	Cable connections shall be torque tested.	NA	
REMARKS AND OBSERVATIONS :			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	PETROJET	ENPPI	PMC
NAME			
SIGNATURE			
DATE			

PRE-COMMISSIONING CHECK LIST			
LOW VOLTAGE CABLES			
EL-30 A			
PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)			
PROJECT NUMBER : 1251-100			
DISCIPLINE : Electrical		SYSTEM NAME : Substation 400V Low Voltage Motor	
SYSTEM ID : 030-EL-005		SUB-SYSTEM NAME : Substation 400V Low Voltage Motor	
SUB-SYSTEM ID : 030-EL-005		ITEM TAG No. : C3-030-SUB-LVSWG-1A	
AREA : 30		REF. DWGS/DOCS :	
DESCRIPTION		No.	
RESULT	OK/NA/PL	ITEM No.	
PL	RESULT		
		12	Check that buried cables are correctly covered and protected.
	NA	13	Trench markers to be checked w.r.t approved documents.
	NA	14	Check cable glands for tightness & check the correct type of gland has been used for the size and type of installed cables.
	✓	15	Inspect cable laid in trenches, segregation and protection.
	✓	16	Cables to be tested (continuity/insulation resistance). (*)
	✓	17	Equipment test report and inspection certificate to be checked.
	NA	18	Check availability of vendor documents, including commissioning and start-up instructions. (If Any)
	✓	19	Calibration test certificate of testing equipment to be checked.
REMARKS AND OBSERVATIONS :			
(*) Refer to table (III).			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	PETROJET	ENPPI	PMC
NAME			
SIGNATURE			
DATE			

**PRE-COMMISSIONING CHECK LIST
LOW VOLTAGE CABLES
EL-30 A**

INSULATION TEST

LOW VOLTAGE CABLES

CABLE VOLTAGE LEVEL	D.C TEST VOLTAGE	MINIMUM INSULATION RESISTANCE (M.OHMS).
1000V	1000V	200

TABLE (III)

NOTES:

Manufacturer's test voltage & minimum values for insulation resistance should be referenced.

PRE-COMMISSIONING CHECK LIST			
LOW VOLTAGE CABLES			
EL-30 A			
PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)			
PROJECT NUMBER : 1251-100		DISCIPLINE : Electrical	
SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System		SYSTEM ID : 030-EL-005	
SUB-SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System		SUB-SYSTEM ID : 030-EL-005	
ITEM TAG No. : C3-030-SUB-LVSWG-1B		AREA : 30	
REF. DWGS/DOCS :			
No.	DESCRIPTION	RESULT	ITEM No.
1	Construction punch list to be checked.	✓	
2	Check cables are correctly fixed to trays and supports.	✓	
3	Check cables through walls or ceilings are correctly sealed.	NA	
4	Check that all cables (power/ control) are installed in accordance with cable lists and approved documents.	✓	
5	Check identification tags of all conductors and wires.	✓	
6	Check connection, tightness, termination and joints of cables are correctly executed.	✓	
7	Check where conductors have been terminated using crimped connections; ensure the correct size and type of crimping lugs.	✓	
8	Check that the bending radius of cables is not less than the minimum established.	✓	
9	Cable markers to be installed before covering buried cables or cables in cable trays.	✓	
10	The wraps to be used for cable and wires fixation.	✓	
11	Cable connections shall be torque tested.	NA	
REMARKS AND OBSERVATIONS :			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	PETROJET	ENPPI	PMC
NAME			
SIGNATURE			
DATE			

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PRE-COMMISSIONING CHECK LIST			
LOW VOLTAGE CABLES			
EL-30 A			
PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)			
PROJECT NUMBER : 1251-100			
DISCIPLINE : Electrical		SYSTEM NAME : Substation 400V Low Voltage Motor	
SYSTEM ID : 030-EL-005		SUB-SYSTEM NAME : Substation 400V Low Voltage Motor	
SUB-SYSTEM ID : 030-EL-005		ITEM TAG No. : C3-030-SUB-LVSWG-1B	
AREA : 30		REF. DWGS/DOCS :	
No.	DESCRIPTION	RESULT	ITEM No.
12	Check that buried cables are correctly covered and protected.	N/A	
13	Trench markers to be checked w.r.t approved documents.	N/A	
14	Check cable glands for tightness & check the correct type of gland has been used for the size and type of installed cables.	✓	
15	Inspect cable laid in trenches, segregation and protection.	N/A	
16	Cables to be tested (continuity/insulation resistance). (*)	✓	
17	Equipment test report and inspection certificate to be checked.	N/A	
18	Check availability of vendor documents, including commissioning and start-up instructions. (If Any)	N/A	
19	Calibration test certificate of testing equipment to be checked.	✓	
REMARKS AND OBSERVATIONS :			
(*) Refer to table (III).			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	PETROJET	ENPPI	PMC
NAME			
SIGNATURE			
DATE			



PRE-COMMISSIONING CHECK LIST
LOW VOLTAGE CABLES
EL-30 A

INSULATION TEST

LOW VOLTAGE CABLES

CABLE VOLTAGE LEVEL	D.C TEST VOLTAGE	MINIMUM INSULATION RESISTANCE (M.OHMS).
1000V	1000V	200




TABLE (III)

NOTES:

Manufacturer's test voltage & minimum values for insulation resistance should be referenced.

PRE-COMMISSIONING CHECK LIST			
LV SWITCHGEAR AND MOTOR CONTROL GEAR			
PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)			
PROJECT NUMBER : 1251-100			
DISCIPLINE : Electrical		SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System	
SYSTEM ID : 030-EL-005		SUB-SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System	
SUB-SYSTEM ID : 030-EL-005		ITEM TAG No. : 030-SUB-LVSWG-1	
AREA : 30		REF. DWGS/DOCS :	
DESCRIPTION			
No.	DESCRIPTION		REF. DWGS/DOCS
PL	RESULT	OK/NA/PL	ITEM No.
GENERAL:			
1.1	Construction punch list to be checked.	✓	
1.2	Check switchgear assembly for alignment, levelness and foundation fixing details w.r.t approved supplier drawings.	✓	
1.3	Check panels arrangement in accordance with approved drawings.	✓	
1.4	Check switchgear nameplate details and labels as per approved documents.	✓	
1.5	Confirm that switchgear equipment identification tag is placed against each one.	✓	
1.6	Check gasket and seal for damage.	✓	
1.7	Inspect all switchgear equipment for mechanical damage.	✓	
1.8	All compartments to be cleaned internally & externally.	✓	
1.9	Check that all connections are tight and secure.	✓	
1.10	Remove any accidental connections between phases and from phases to ground.	✓	
REMARKS AND OBSERVATIONS :			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	PETROJET	ENPPI	PMC
NAME			
SIGNATURE			
DATE			

PRE-COMMISSIONING CHECK LIST			
LV SWITCHGEAR AND MOTOR CONTROL GEAR			
PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)			
PROJECT NUMBER : 1251-100		DISCIPLINE : Electrical	
SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System		SYSTEM ID : 030-EL-005	
SUB-SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System		SUB-SYSTEM ID : 030-EL-005	
ITEM TAG No. : 030-SUB-LVSWG-1		AREA : 30	
REF. DWGS/DOCS :			
No.	DESCRIPTION	RESULT	ITEM No.
1.11	Check all supports needed for power and control cables.	✓	
1.12	Check all cubicle door bonded to chassis.	✓	
1.13	Check manual spring charging and its mechanical indication.	NA	
1.14	Check polarity of D.C supplies.	NA	
1.15	Check cubicle anti-condensation heaters and test insulation resistance of panel heater (**)	NA	
1.16	Perform insulation-resistance tests (Megger Test) at the DC test voltage appropriate for each bus section, phase-to-phase & phase to ground (*)	✓	
1.17	Perform insulation-resistance tests (Megger Test) at the DC test voltage appropriate for control wiring (*)	✓	
1.18	Equipment test report and inspection certificate to be checked.	✓	
1.19	Check availability of vendor documents including commissioning and start-up instructions.	NA	
2	BUS BAR:		
2.10	Check Bus duct(s) connections against the approved documents.	✓	
REMARKS AND OBSERVATIONS :			
(*) Refer to table [I] (**) 500 V megger, min. 10 MΩ (Manufacturer's test voltage & minimum values should be referenced)			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	PETROJET	ENPPI	PMC
NAME			
SIGNATURE			
DATE			

PRE-COMMISSIONING CHECK LIST			
LV SWITCHGEAR AND MOTOR CONTROL GEAR			
EL-04 A			
PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)			
PROJECT NUMBER : 1251-100			
DISCIPLINE : Electrical		SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System	
SYSTEM ID : 030-EL-005		SUB-SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System	
SUB-SYSTEM ID : 030-EL-005		ITEM TAG No. : 030-SUB-LVSWG-1	
AREA : 30		REF. DWGS/DOCS :	
No.	DESCRIPTION		No.
	RESULT	OK/NA/PL	
2.2	Inspect all busbar bolted connections for tightness.	✓	
2.3	Continuity tests shall be carried out on switchgear bus bar connections in order to check their tightness.	✓	
3	CURRENT/VOLTAGE TRANSFORMER		
3.1	Check visually the connection, polarity and ratio.	✓	
3.2	Check FAT certificates of Insulation resistance concerning primary and secondary winding.	NA	
4	LV INCOMER & OUTGOING:		
4.1	Check mechanical alignment of C.B's and free movement.	✓	
4.2	Check mechanical operation of circuit breakers (operation mechanism).	✓	
4.3	Check inter-changeability of identical C.B's.	✓	
4.4	Check FAT certificates of the protection relays.	NA	
REMARKS AND OBSERVATIONS :			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	PETROJET	ENPPI	PMC
NAME			
SIGNATURE			
DATE			

PRE-COMMISSIONING CHECK LIST			
LV SWITCHGEAR AND MOTOR CONTROL GEAR			
EL-04 A			
PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)			
PROJECT NUMBER : 1251-100			
DISCIPLINE : Electrical		SYSTEM ID : 030-EL-005	
SUB-SYSTEM NAME : Substation 400V Low Voltage Motor		SUB-SYSTEM ID : 030-EL-005	
ITEM TAG No. : 030-SUB-LVSWG-1		AREA : 30	
REF. DWGS/DOCS :			
No.	DESCRIPTION	OK/NA/PL	ITEM No.
VOLTMETER/AMMETER/INSTRUMENT:			
5.1	Check metering circuit wiring.	✓	
EARTHING:			
6.1	Check switchgear earthing connections.	✓	
6.2	Check connection of gland plate to the earthing busbar.	✓	
6.3	Continuity tests shall be carried out on switchgear earth system joints in order to check their tightness.	✓	
REMARKS AND OBSERVATIONS :			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	PETROJET	ENPPI	PMC
NAME			
SIGNATURE			
DATE			

**PRE-COMMISSIONING CHECK LIST
LV SWITCHGEAR AND MOTOR CONTROL GEAR
EL-04 A**

INSULATION TEST

TABLE OF MINIMUM TEST VOLTAGES



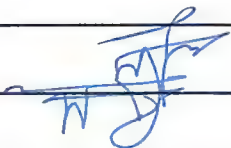
EQUIPMENT RATED VOLTAGE (KV)	TEST VOLTAGE (V) (ONE MINUTE)	MINIMUM INSULATION RESISTANCE (M.OHMS)
0.6	1000	100
0.4	1000	100
CONTROL WIRING	500	10

TABLE [I]

NOTES:

Manufacturer's test voltage & minimum values for insulation resistance should be referenced

PRE-COMMISSIONING CHECK LIST			
LOW VOLTAGE CABLES			
FL-30 A			
PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)			
PROJECT NUMBER : 1251-100			
SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System		SYSTEM ID : 030-EL-005	
SUB-SYSTEM NAME : Substation 400V Low Voltage Motor Control Center System		SUB-SYSTEM ID : 030-EL-005	
ITEM TAG No. : C1-030-SUB-LVSWG-1A		AREA : 30	
REF. DWGS/DOCS :			
No.	DESCRIPTION	RESULT	ITEM No.
1	Construction punch list to be checked.	✓	
2	Check cables are correctly fixed to trays and supports.	✓	
3	Check cables through walls or ceilings are correctly sealed.	NA	
4	Check that all cables (power/ control) are installed in accordance with cable lists and approved documents.	✓	
5	Check identification tags of all conductors and wires.	✓	
6	Check connection, tightness, termination and joints of cables are correctly executed.	✓	
7	Check where conductors have been terminated using crimped connections; ensure the correct size and type of crimping lugs.	✓	
8	Check that the bending radius of cables is not less than the minimum established.	✓	
9	Cable markers to be installed before covering buried cables or cables in cable trays.	✓	
10	Tie wraps to be used for cable and wires fixation.	✓	
11	Cable connections shall be torque tested.	NA	
REMARKS AND OBSERVATIONS :			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	PETROJET	ENPPI	PMC
NAME			
SIGNATURE			
DATE			

PRE-COMMISSIONING CHECK LIST			
LOW VOLTAGE CABLES			
EL-30 A			
PROJECT TITLE : EGPC CRUDE OIL TANK FARMS PROJECT (AGROOD AREA 30) (MODULE 01)			
PROJECT NUMBER : 1251-100		DISCIPLINE : Electrical	
SYSTEM NAME : Substation 400V Low Voltage Motor		SYSTEM ID : 030-EL-005	
SUB-SYSTEM NAME : Substation 400V Low Voltage Motor		SUB-SYSTEM ID : 030-EL-005	
ITEM TAG No. : C1-030-SUB-LVSWG-1A		AREA : 30	
REF. DWGS/DOCS :			
No.		DESCRIPTION	
		RESULT	ITEM No.
12	Check that buried cables are correctly covered and protected.	NA	
13	Trench markers to be checked w.r.t approved documents.	NA	
14	Check cable glands for tightness & check the correct type of gland has been used for the size and type of installed cables.	✓	
15	Inspect cable laid in trenches, segregation and protection.	✓	
16	Cables to be tested (continuity/insulation resistance). (*)	✓	
17	Equipment test report and inspection certificate to be checked.	NA	
18	Check availability of vendor documents, including commissioning and start-up instructions. (If Any)	NA	
19	Calibration test certificate of testing equipment to be checked.	✓	
REMARKS AND OBSERVATIONS :			
(*) Refer to table (III).			
OK: NO OBJECTION, NA: NOT APPLICABLE, PL: PUNCH LIST.			
COMPANY	PETROJET	ENPPI	PMC
NAME			
SIGNATURE			
DATE			

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PRE-COMMISSIONING CHECK LIST
LOW VOLTAGE CABLES
FL-30 A

INSULATION TEST

LOW VOLTAGE CABLES



CABLE VOLTAGE LEVEL	D.C TEST VOLTAGE	MINIMUM INSULATION RESISTANCE (M.OHMS).
1000V	1000V	200

TABLE (III)




NOTES:



Manufacturer's test voltage & minimum values for insulation resistance should be referenced.

12.11- Electrical Supplier Check Lists & Reports



System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System
<div data-bbox="1133 1939 1414 2022">  </div> <div data-bbox="534 1944 1038 2000"> <p>Project: 01251-100 CRUDE OIL TANK FARM PROJECT (AGROOD AREA)</p> </div> <div data-bbox="261 1926 458 2011">  </div>	

13- Electrical Commissioning



System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System
<div> <div>   </div> <div> <div>Project: 01251-100</div> <div>CRUDE OIL TANK FARM PROJECT (AGROOD AREA)</div>  </div> </div>	



<div><div><div>Enppi PETROJET</div></div><div><div>Project: 01251-100</div><div>CRUDE OIL TANK FARM PROJECT (AGROOD AREA)</div><div></div></div></div>		System ID	030-EI-005
		System Description	Substation 400V Low Voltage Motor Control Center System
<div>13.01- Electrical -Commissioning Check Lists</div>			

13.02- Electrical Supplier Check Lists & Reports

System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: right;">  </div> <div style="text-align: center;"> <p>Project: 01251-100</p> <p>CRUDE OIL TANK FARM PROJECT (AGROOD AREA)</p> </div> <div style="text-align: left;">  </div> </div>	

14- Red Marked-up Drawings

 Enppi PETROJET Project: 01251-100 CRUDE OIL TANK FARM PROJECT (AGROOD AREA)  Petrojet Company	
System ID	030-EI-005
System Description	Substation 400V Low Voltage Motor Control Center System

<div>Enppi PETROJET</div> <div>Project: 01251-100 CRUDE OIL TANK FARM PROJECT (AGROOD AREA)</div> <div></div>		System ID	030-EL-005	System Description	Substation 400V Low Voltage Motor Control Center System
<div>14.01- P&ID</div>					

14.02- Instrumentation Drawings


System ID	030-EL-005
System Description	Substation 400V Low Voltage Motor Control Center System



Project: 01251-100
CRUDE OIL TANK FARM PROJECT (AGROOD AREA)



14.03- Electrical Drawings

System ID		030-EL-005
System Description		Substation 400V Low Voltage Motor Control Center System
 Enppi PETROJET		Project: 01251-100 CRUDE OIL TANK FARM PROJECT (AGROOD AREA)
